

WELFARE PREVENTION ISSUE GROUP  
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## Summary

Adolescent pregnancy is widely recognized in our society as a complex and serious problem. Regardless of one's political philosophy or moral perspective, the basic facts are disturbing: more than 1 million teenage girls in the United States become pregnant each year, just over 400,000 teenagers obtain abortions, and nearly 470,000 give birth. The majority of these births are to unmarried mothers, nearly half of whom have not yet reached their eighteenth birthday.

For teenage parents and their children, prospects for a healthy and independent life are significantly reduced. Young mothers, in the absence of adequate nutrition and appropriate prenatal care, are at a heightened risk of pregnancy complications and poor birth outcomes; they are also more likely to experience a subsequent pregnancy while still in their teens. The infants of teenage mothers also face greater health and developmental risks.

Despite declining birth rates since 1970, adolescent pregnancy, abortion, and childbearing have remained considerably higher in the United States than in the majority of other developed countries of the world, even though the age of initiation and rates of early sexual activity are comparable. The most striking contrast is among the youngest teenagers: U.S. girls under age 15 are at least five times more likely to give birth than young adolescents in any other developed country for which data are available.

Teenage families with children are disproportionately fatherless, and most are poor. Teenage marriages, when they occur, are characterized by a high degree of instability. In addition, teenage parents, both male and

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female, suffer the negative impact that untimely parenting has on their education and the related limitation of career opportunities. Teenage parents are more likely than those who delay childbearing to experience chronic unemployment and inadequate income. Because these young people often fare poorly in the workplace, they and their children are highly likely to become dependent on public assistance and to remain dependent longer than those who delay childbearing until their twenties. Society's economic burden in sustaining these families is substantial.

Why do young people who are hardly more than children themselves become parents? Is it primarily due to a lack of individual responsibility, maturity, knowledge, and values? Or does it result from the pervasive problems associated with poverty, including limited education and employment opportunities and the likelihood of growing up in a fatherless family, so common among high-risk youth? The answer to both of these questions seems to be yes. Yet there is widespread disagreement among political, educational, and religious leaders, as well as parents, about the problems of adolescent pregnancy and what to do about them. Indeed, many people feel that the primary emphasis of U.S. social policy should be on eliminating poverty, strengthening family ties, and enhancing young people's perceptions of their futures. The panel joins those who believe that the primary goal should be to ameliorate these conditions, and perhaps in doing so also solve the problems of adolescent pregnancy and childbearing in America. Unfortunately, however, scientists, policy makers, and concerned citizens have so far been unable to find easy and effective solutions to these greater social and economic problems. As a result, during the past two decades, there has been no coherent U.S. policy toward adolescent pregnancy and childbearing, despite explicit recognition on the part of many that government involvement is needed and appropriate.

In part we lack a coherent approach toward policy because adolescents are not a monolithic group, and adolescent pregnancy is not a unitary problem. For young people of different ages, living in different social, economic, and cultural circumstances, the meaning of early sexual activity, pregnancy, and childbearing is not the same. In addition, sexual relationships and family formation have traditionally been regarded as personal matters in our society. As increasing numbers of young people have become involved in these behaviors outside marriage, however, many people have expressed concern about the appropriate jurisdiction of parents, the state, and teenagers themselves in these matters. At what age should adolescents, rather than their parents, have the authority to make

decisions? Under what circumstances should the state intervene? These issues have not been resolved.

The past decade and a half have witnessed a dramatic burgeoning of policies and programs to help delay teenage pregnancies and to reduce the adverse consequences of early childbearing. Some of these have been promoted and supported by the federal government; others have been initiated by states and local communities; and still others have developed from significant investments by private foundations and philanthropic groups. Many have been the result of productive public-private partnerships. Some have focused on individual teenagers as the unit of treatment; others have focused on families. Some have provided specialized services; others have been comprehensive in their approach. Programs have been organized in schools, churches, community centers, social service agencies, clinics, and hospitals. Some have been single-site programs, while others have been replicated at several sites within a city or across the nation. Despite the magnitude of human and monetary resources that have been directed at tackling the problems of adolescent pregnancy, however, there has been no systematic attempt to assess the effects and effectiveness of alternative approaches in light of growing scientific understanding of early pregnancy and parenting.

With support from a consortium of private foundations, the Panel on Adolescent Pregnancy and Childbearing undertook a comprehensive examination of issues associated with teenage sexual and fertility behavior and reviewed what is known about the costs and benefits of alternative policies and programs to address these issues.

On the basis of two years of review, analysis, and debate, the panel has reached six general conclusions:

1. Prevention of adolescent pregnancy should have the highest priority. In both human and monetary terms, it is less costly to prevent pregnancy than to cope with its consequences; and it is less expensive to prevent a repeat pregnancy than to treat the compounded problems.
2. Sexually active teenagers, both boys and girls, need the ability to avoid pregnancy and the motivation to do so. Early, regular, and effective contraceptive use results in fewer pregnancies. Delaying the initiation of sexual activity will also reduce the incidence of pregnancy, but we currently know very little about how to effectively discourage unmarried teenagers from initiating intercourse. Most young people do become sexually active during their teenage years. Therefore, making contraceptive methods available and accessible to those who are sexually active and

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encouraging them to diligently use these methods is the surest strategy for pregnancy prevention.

3. Society must avoid treating adolescent sexuality as a problem peculiar to teenage girls. Our concept of the high-risk population must include boys. Their attitudes, motivations, and behavior are as central to the problems as those of their female partners, and they must also be central to the solutions.

4. There is no single approach or quick fix to solving all the problems of early unintended pregnancy and childbearing. We will continue to need a comprehensive array of policies and programs targeted to the special characteristics of communities and to the circumstances of teenagers from different social, cultural, and economic backgrounds and of different ages. Because adolescents are not a monolithic group, they do not all experience sexual activity, pregnancy, and childbearing in the same way. Our broad goal is the same for all young people: that they develop the necessary capabilities to make and carry out responsible decisions about their sexual and fertility behavior. The strategies for achieving these goals and the specific interventions to carry them out, however, should be sensitive to differences in values, attitudes, and experiences among individuals and groups.

5. If trade-offs are to be made in addressing the special needs of one group over another, priority should be given to those for whom the consequences of an early unintended pregnancy and birth are likely to be most severe: young adolescents and those from the most socially and economically disadvantaged backgrounds. In many ways those at highest risk are hardest to serve, yet they are also the groups that have been shown to benefit most.

6. Responsibility for addressing the problems of adolescent pregnancy and childbearing should be shared among individuals, families, voluntary organizations, communities, and governments. In the United States, we place a high priority on ensuring the rights of individuals to hold different values and the rights of families to raise their children according to their own beliefs. Therefore, public policies should affirm the role and responsibility of families to teach human values. Federal and state governments and community institutions should supplement rather than detract from that role.

These general conclusions underlie all of our specific conclusions and recommendations for policies, programs, and research.

The panel presents its conclusions and recommendations with an intense awareness of the limits of scientific knowledge in dealing with the problems of adolescent pregnancy and childbearing. The issues involved are not only scientific; they also reflect widely differing values. We also recognize the importance of families in establishing attitudes, behavior patterns, and traditional values in developing children, and we encourage efforts to involve families as an essential component in the solution of the problems associated with adolescent sexuality. As scientists, however, our role is to contribute to the base of knowledge about the problems involved, and our goal is to inform the policy debate by clarifying the scientific issues.

#### PRIORITIES FOR POLICIES AND PROGRAMS

The panel's specific conclusions and recommendations cover a range of activities that include research, planning, policy development, service delivery, and monitoring. When existing knowledge supports new or revised policies and programs or highlights the effectiveness of ongoing initiatives, we propose specific new or continued programs or specific research and development. When existing knowledge provides insights but is incomplete, we advise further demonstration and evaluation to enhance understanding of the relative costs, effects, and effectiveness of promising approaches. When innovative policies have been initiated but there are as yet no scientifically measurable outcomes, we urge careful observation and monitoring. Many of our recommendations build on policies, programs, and research that are already under way, and many reinforce the priorities of other individuals and groups that are addressing the complex and controversial issue of adolescent pregnancy.

The panel has identified three overarching policy goals, presented in order of priority, that provide a framework for our specific conclusions and recommendations:

1. Reduce the rate and incidence of unintended pregnancy among adolescents, especially among school-age teenagers.
2. Provide alternatives to adolescent childbearing and parenting.
3. Promote positive social, economic, health, and developmental outcomes for adolescent parents and their children.

For most young people in the United States, realizing fulfilling adult work and family roles depends on completing an education and entering

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the labor force before becoming a parent. Accordingly, our highest priority should be to help teenagers, regardless of the timing of sexual initiation, to develop the ability and the motivation to avoid becoming parents before they are socially, emotionally, and economically prepared. Despite the amount of energy and resources devoted to prevention strategies, however, some teenagers will experience unintended and untimely pregnancies. For those who choose to keep and raise their children, supports and services to promote healthy development, educational attainment, and economic self-sufficiency should be available. Given the potentially adverse consequences of early parenthood for the life chances of young people, however, there should be alternatives to childbearing and childrearing. Abortion is a legal option for all women, including adolescents. We acknowledge that voluntary termination of pregnancy is controversial, and for many in our society it is morally reprehensible. Although the panel strongly prefers prevention of pregnancy to avoid parenthood, abortion is an alternative for teenagers for whom prevention fails. Adoption should also be available to those teenagers who choose to continue their pregnancies yet are unable or unwilling to assume the responsibilities of parenting.

*Goal 1: Reduce the Rate and Incidence of Unintended Pregnancy Among Adolescents, Especially Among School-Age Teenagers*

The panel is unequivocal in its conviction that the primary goal of policy makers, professionals, parents, and teenagers themselves should be a reduction in the rate and incidence of unintended pregnancies among adolescents, especially school-age teenagers. Several strategies can assist in achieving this goal: enhance the life options of disadvantaged teenagers, delay the initiation of sexual activity, and encourage contraceptive use for teenagers who are sexually active. Unfortunately, very little scientific evidence is available on the effectiveness of programs associated with the first two strategies, and so we can only endorse the development, implementation, and evaluation of such programs. For the third strategy, the scientific base is much greater, and programs can be based on the demonstrated effectiveness of contraceptive use.

*Enhance Life Options* Poverty and hopelessness, which exacerbate many social problems, play an especially important role in the problems associated with adolescent pregnancy. Sexual activity and pregnancy

among teenagers are not confined by race and income, yet the correlation between poverty and adolescent fertility is well documented. For too many high-risk teenagers, there are too few disincentives to early childbearing. Inadequate basic skills, poor employment prospects, and the lack of successful role models for overcoming the overwhelmingly negative odds of intergenerational poverty have stifled the motivation of many to delay immediate gratification and avoid pregnancy. Young people need a reason to believe that parenthood is inappropriate at this point in their lives and that their opportunities for personal and occupational success will be enhanced by postponement. Several possible interventions are aimed at indirectly reducing adolescent fertility by nurturing the motivation to prevent untimely and unplanned parenthood, including life planning courses, programs to improve school performance, employment programs, and programs to provide role models for high-risk youth. Program research clearly demonstrating the effectiveness of these interventions is not currently available. Nevertheless, the panel endorses the development, implementation, and evaluation of such programs as a basis for future policy and program development.

*Delay Sexual Initiation* A second strategy for reducing the rate of teenage pregnancy is to help teenagers, both male and female, develop ways to postpone sexual initiation until they are capable of making wise and responsible decisions concerning their personal lives and family formation. Several interventions are aimed at helping young people delay sexual initiation, including sex and family life education, assertiveness and decision-making training, programs to provide role models to young adolescents, and efforts to influence the media treatment of sexuality. Although there is little available evidence to document their effectiveness, the panel endorses the development and evaluation of such programs as a basis for future policy and program decisions. In addition, interventions to enhance the life options of teenagers may also encourage young people to delay the initiation of sexual activity.

*Encourage Contraception* Because there is so little evidence of the effectiveness of the other strategies for prevention, the panel believes that the major strategy for reducing early unintended pregnancy must be the encouragement of diligent contraceptive use by all sexually active teenagers. Male contraception, as well as male support for female contraception, is essential. In light of the demonstrated effectiveness of contra-

ceptive use, especially use of the contraceptive pill and the condom, in achieving this goal—

*The panel concludes that use of the contraceptive pill is the safest and most effective means of birth control for sexually active adolescents. Aggressive public education is needed to dispel myths about the health risks of pill use by girls in this age group, and contraceptive service programs should explore nonmedical models for distribution of the pill.*

*The panel concludes that, to make this strategy effective, there must be continued public support for contraceptive services to adolescents, such as has been supplied primarily through Title X of the Family Planning Services and Population Research Act, Medicaid, and other federal and state maternal and child health programs. Such programs should minimize the potential barriers of cost, convenience, and confidentiality.*

*The panel urges that sex education programs include information on methods of contraception, how to use them, and how to obtain them.*

*The panel urges continued support for a variety of contraceptive service models—including private physicians—to reach adolescents. Contraceptive services should be available to all teenagers at low or no cost. Clinic service providers, whether based in hospitals, public health departments, private clinics, or community service organizations, should make efforts to improve the effectiveness of their programs by (1) enhancing their outreach efforts to encourage earlier use of contraceptive methods; (2) exploring more effective counseling approaches to encourage compliance; and (3) enhancing their follow-up of clinic patients to track their contraceptive use.*

*The panel concludes that school systems, in cooperation with various health care and youth-serving agencies, should further develop and refine comprehensive school-based clinic models for implementation in schools with large, high-risk populations.*

*The panel recommends the development, implementation, and evaluation of condom distribution programs.*

*The panel concludes that efforts should be undertaken to develop and test the effects on contraceptive use and unintended pregnancy of paid promotional messages for contraceptives that are directed at sexually active adolescents.*

### *Goal 2: Provide Alternatives to Adolescent Childbearing and Parenting*

The panel believes that prevention of pregnancy through abstinence or contraception is far preferable to unintended pregnancy among teenagers. Regardless of one's personal convictions, decisions concerning pregnancy resolution—whether to become a parent, to terminate a pregnancy, or to relinquish a child for adoption—are difficult, often painful choices. Nevertheless, when prevention fails, early parenthood is not the only available course. For young people who are unwilling to give birth or unable or unwilling to assume the responsibilities of parenthood, two alternatives exist—abortion and adoption.

*Abortion* In 1973 the Supreme Court made abortion a legal option for pregnancy resolution for all women, yet its use by teenagers, especially young teenagers, remains a special issue. There is no evidence concerning either the cognitive capacity of adolescents to make decisions about pregnancy termination or the psychological consequences of abortion that would support or refute the imposition of age restrictions governing access to abortion services. There is, however, growing evidence that parental consent statutes cause teenagers to delay their abortions, if for no other reason than that those teenagers unwilling or unable to consult their parents must undergo the de facto waiting period associated with finding a lawyer and gaining access to the courts in order to obtain a judicial bypass. Such delays may increase the health risks associated with abortion if they result in postponing it until the second trimester of pregnancy. In general, the health risks associated with an early, legal abortion are no greater for adolescents than for adult women, and in most cases they are lower. They are also lower than the risks associated with pregnancy and childbirth.

*The panel urges that at each step along the path from sexual initiation to parenting—regardless of whether one might wish that that step had not been reached—the girl or woman should be treated with the same dignity, confidentiality, kindness, and excellence of health care that are due any patient.*

*The panel concludes that there is no scientific basis for restricting the availability of abortion to adolescents. Evidence shows that to require minor teenagers to seek parental consent often causes them to delay abortions, with attendant health risks. On this basis, the panel concludes that minor adolescents should be encour-*

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aged, but not required, to involve their parents and partners in the decision-making process.

The panel believes there should be no compromise in the medical and personal supportive care for the 400,000 adolescents who have an abortion each year. For those adolescents who choose to terminate their pregnancy, abortion services should include both decision counseling and contraceptive counseling.

*Adoption* For pregnant adolescents who choose to continue their pregnancies but are unable or unwilling to assume the role and responsibilities of parenthood, adoption should be a viable option.

The panel recommends that relevant public agencies, in cooperation with the private sector, explore ways of strengthening adoption services, including (1) improved decision counseling for pregnant teenagers and (2) development of effective models for providing comprehensive care to pregnant girls who choose adoption as an alternative to parenthood.

### Goal 3: Promote Positive Social, Economic, Health, and Developmental Outcomes for Adolescent Parents and Their Children

Regardless of pregnancy prevention strategies or available alternatives to parenthood, some teenagers experience unplanned pregnancies and become parents. Many of those who do are at serious risk of health and nutritional deficiencies, dropping out of school, unemployment, single parenthood, poverty, and long-term welfare dependence. Their children have a higher probability of physical, social, and cognitive problems and deficiencies. Although unmarried teenage parents represent a small proportion of the overall adolescent population, their problems and needs entail high public costs. Accordingly, a third important goal is to promote positive outcomes for adolescent parents and their children. Several strategies can assist in achieving this goal.

*Promote Healthy Birth Outcomes and Support the Physical Health of Young Mothers and Their Babies* Young expectant mothers who receive early and regular prenatal care and nutrition are significantly more likely to have healthy birth outcomes than those who do not. Similarly, young children who receive regular health care as well as appropriate emergency care are likely to be in better physical health than those who do not.

The panel recommends continued support for the provision of appropriate health and nutrition services, including prenatal, labor, and delivery care for pregnant adolescents and regular and emergency pediatric care for the children of teenage mothers, through Medicaid; the Early and Periodic Screening, Diagnosis and Treatment Program; and other federal and state maternal and child health programs. Bureaucratic barriers that prevent teenagers from receiving early, regular, and appropriate care for themselves and their children should be minimized.

*Prevent Subsequent Untimely and Unintended Births* A second untimely and unintended birth is likely to compound the already complex and overwhelming problems faced by many adolescent parents. Prevention of subsequent pregnancies and births is thus an important strategy for promoting positive outcomes for teenage parents and their children.

The panel concludes that contraceptive services should be available and accessible to adolescent parents at low or no cost. Because of the special needs of this high-risk population, service providers should strengthen their programs by (1) enhancing their outreach efforts to encourage early use of contraceptive methods; (2) developing intensive individualized counseling and care techniques to encourage compliance; and (3) enhancing their follow-up procedures to track contraceptive use.

*Ensure the Economic Well-being of the Teenage Family* Parents, including fathers, are obligated to provide support until their children reach age 18. But many fathers, especially teenage fathers, who may not have completed school and who are unemployed or employed only part-time, are unlikely to be able to make a significant contribution to the support of their children. For this reason, young fathers have often not been pursued by child support enforcement authorities. There has been renewed interest, however, in enforcing child support by fathers of children born to teenage mothers, both to provide additional financial assistance to young mothers and their children and to increase young men's sense of parental responsibility. There is little existing research or program experience to guide new policies in this area. Nevertheless, the panel urges efforts to educate young men about their child support obligations and to enforce those obligations over time. Experimental efforts to link child support enforcement to work requirements, including part-time and summer jobs for fathers who are enrolled in school, should be initiated and tested.

The parents of adolescent parents should also be encouraged to assume responsibility for the support and obligations of their minor (under age 18) children and the children of these minors. Again, research and program experience in this area is limited. Recent state legislation establishing grandparent liability should be carefully monitored to determine its effects.

*Enhance Life Options for Adolescent Parents* Teenage parents must be encouraged to invest in their own futures. Both the motivation and the means to overcome the likely adverse consequences of early childbearing are essential. Therefore, another important strategy for improving social, economic, and health outcomes is to enhance the life opportunities of adolescent parents.

*The panel urges that a broad array of special education programs and services for pregnant and parenting teenagers be developed and implemented to assist these young people in completing their education.*

*The panel concludes that efforts should be continued to strengthen and expand age-appropriate employment programs for pregnant girls and teenage parents, both male and female.*

*The panel recommends that support be provided for the development, implementation, and evaluation of model child care programs that are targeted to the needs of teenage parents. Schools and other community organizations should place high priority on establishing and maintaining these services for the children of adolescents.*

*The panel urges that public and voluntary community agencies explore ways of developing and evaluating case management capabilities to help adolescent parents obtain the necessary supports and services.*

*Promote the Social, Emotional, and Intellectual Development of the Children of Adolescent Parents* The children of adolescent parents are especially vulnerable to health, social, and cognitive problems. Special supports and services are needed by many adolescent parents to prevent or overcome these difficulties and to promote their children's healthy development.

*The panel urges that parenting education for teenage parents, especially those from severely disadvantaged backgrounds, receive special attention and emphasis.*

*Schools and other community organizations should place high priority on the development, implementation, and evaluation of these programs.*

## RECOMMENDATIONS FOR DATA COLLECTION AND RESEARCH

Over the past several years, researchers have made significant advances in knowledge of teenage sexuality, pregnancy, and parenting. Yet many questions remain unanswered, and they suggest priorities for future data collection and research.

### *Program Evaluation Research*

Despite the enormous commitment of public and private monetary resources and human effort toward designing and implementing preventive and ameliorative interventions, evidence of program costs, effects, and effectiveness is frequently unavailable or of poor quality. Although there are significant methodological, ethical, and practical problems associated with evaluations of these programs, they can be evaluated. Evaluation research methods have become quite sophisticated, yet they are frequently not used in studying the effects of adolescent pregnancy programs. Reliable data are needed as a basis for policy and program development.

*The panel recommends that evaluation to measure the costs, effects, and effectiveness of service programs be an essential component of intervention strategies. Federal and state-level funding agencies should be urged to set aside adequate support for evaluation research, and the research community should be urged to take a more active role in designing and implementing these studies.*

### *Data Collection*

Data on teenage sexual activity, contraceptive use, pregnancy, abortion, childbearing, and other fertility-related behaviors have been vital to the panel's deliberations and are equally essential for future research and analysis. Relevant information is available from several different sources, including large-scale surveys, federal and state administrative reporting systems, and service providers. Individual data systems vary in their underlying purposes and special emphases as well as their specific charac-

teristics (e.g., definitions, sample size, data collection intervals). For these reasons, and because information on sensitive issues requires validation from more than one source, a multidimensional strategy for data collection is needed.

*The panel recommends that data systems that monitor fertility and fertility-related behaviors should be maintained and strengthened. Such data are essential for understanding trends and correlates of adolescent sexual activity, contraceptive use, pregnancy, abortion, and childbearing and as a basis for policy and program development. Fiscal cutbacks that affect ongoing data collection programs could seriously damage the quality and availability of these data systems.*

#### *Research on Adolescent Sexual and Fertility Behavior*

Research on adolescent sexuality and fertility has increased substantially over the past decade, and this knowledge has provided an essential basis for the panel's deliberations. Nevertheless, there are several significant gaps. In some cases, the gaps reflect issues that have not been adequately studied because of methodological problems; in others, new issues have emerged from the accumulation of past findings. Future research should reflect the domains of causes and consequences of teenage pregnancy and childbearing: individuals, families, communities, and society.

*The panel recommends the continued support of a broad-based research program on adolescent sexuality and fertility to enhance understanding of the causes and consequences of these behaviors and to inform policy and program development.*

#### *Experimentation*

Although promising program models require further monitoring and evaluation, existing program development efforts should be expanded to include experimentation with innovative models for and novel approaches to pregnancy prevention and for the support and care of pregnant and parenting teenagers and their children.

*The panel recommends that federal funding agencies, private foundations, and researchers cooperate in designing, implementing, and evaluating experimental approaches for pregnancy prevention among high-risk adolescents and for improving the well-being of teenage parents and their children.*

# 1

## Introduction

Adolescent pregnancy is widely recognized as a complex and serious problem in America. Why it is a problem, however, and what can or ought to be done to solve it are matters of dispute among individuals and groups with conflicting values, viewpoints, and agendas.

Adolescent pregnancy and childbearing are not new phenomena in the United States. Nor are they characteristic of most teenagers, as some accounts in the mass media suggest. Nevertheless, the simultaneous emergence of several social and demographic changes have made these issues more visible over the past two decades.

Levels of sexual activity and pregnancy increased dramatically during the 1970s among an expanding population of unmarried teenagers. Although these rates have declined slightly since their peak in the late 1970s, a significantly greater proportion of adolescents is sexually active and experiencing unintended pregnancy in the mid-1980s than in 1971 (Zelnik and Kantner, 1980; Pratt and Hendershot, 1984). Today approximately 45 percent of girls ages 15-19 are sexually active before marriage, and an estimated 36 percent of them become pregnant within two years of initiation of sexual activity (Zelnik and Shah, 1983; Koenig and Zelnik, 1982).

Not every pregnancy, however, results in a birth. The growing rate of abortion since 1973 has caused a reduction in the rate of childbearing among women under age 20. Nearly 40 percent of all teenage pregnancies are voluntarily terminated. Nevertheless, nearly 470,000 infants are born each year to mothers who have not yet reached their twentieth birthday; more than a third of them are born to women under 18 (National Center

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## Determinants of Adolescent Sexual Behavior and Decision Making

The research on adolescent pregnancy in the United States over the past 15 years has made enormous strides in enhancing the understanding of teenage sexual behavior and decision making. For teenagers of different ages, at different stages of cognitive and socioemotional development, and living under different social, economic, and cultural circumstances, choices concerning sexual behavior reflect very different degrees of rational thinking and conscious decision making. For many, choices to initiate intercourse, to continue sexual activity, to use contraception, or to marry versus bearing a child and raising it as a single parent may in fact be nonchoices. A substantial body of research exists on the variety of individual, family, and social factors associated with adolescent sexual activity; Chapter 2 presented the trends of the past decade and a half in this activity. This chapter discusses the determinants of six components of adolescent sexual behavior: initiation of sexual activity, contraceptive use, abortion, marriage before childbearing (legitimation), adoption, and childbearing and rearing outside marriage.

### DETERMINANTS OF ADOLESCENT SEXUAL ACTIVITY

Research suggests that a number of factors are strongly associated with the initiation of sexual activity before marriage. Among the most important of these are individual characteristics such as puberty and other developmental characteristics, age, race, and socioeconomic status, religiousness, intelligence and academic achievement, and dating behavior; family characteristics, such as family background and parental support and controls; and the influence of peer groups.

*From: Risking the Future: Adolescent Sexuality,  
Pregnancy and Childbearing. Cheryl D. Haines (ed.)  
Natl. Academy Press: Wash DC 1987*

### *Individual Characteristics*

**Pubertal Development** There is almost universal agreement among the studies that have addressed the issue that early pubertal development (e.g., age of menarche for girls, body development and hormonal levels for boys) is strongly associated with the early initiation of sexual activity (Billy and Udry, 1983; Udry, 1979; Morris et al., 1982; Westney et al., 1983; Zelnik et al., 1981). However, the importance of physical maturity varies by sex and race. Recent studies of pubertal development, sexual motivation, and sexual behavior among white adolescent boys and girls provide strong evidence for the hormonal basis of motivation and behavior in boys. Among girls, hormonal levels were shown to have strong effects on levels of sexual interest but only weak effects on sexual behavior (Udry et al., 1985a, 1985b). These researchers conclude that girls' actual behavior is influenced to a greater extent by their social environment than by physical maturation. There are no comparable data for black boys and girls. However, earlier work suggests that the association between pubertal development and sexual behavior was stronger for white than black girls (Zelnik et al., 1981) and for white boys than for black boys (Morris et al., 1982; Billy and Udry, 1983). Evidence that a sizable minority of black boys report initiation of intercourse prior to puberty (Westney et al., 1983; Clark et al., 1984) suggests a stronger effect of social environment for black boys than for white boys.

As Hofferth concludes (Vol. II:Ch. 1), although there appears to be a strong relationship between pubertal development, hormone levels, and sexual activity, social factors do intervene in determining when and how both boys and girls initiate sexual intercourse, given maturation. For girls especially, biological factors do not appear to operate independently of the individual's social context and concept of sexual readiness. Therefore, how social factors mediate maturational factors remains an important yet not fully explored issue.

**Age at Initiation** Available data suggest that more adolescents are becoming sexually active at earlier ages. Nevertheless, the older the teenager, the more likely he or she is to have had intercourse (Zelnik et al., 1981; computations of cumulative sexual activity by single year of age using data from the National Survey of Family Growth in Vol. II). Apparently, only a minority of young people do not become sexually experienced while still in their teens: more than 80 percent of males and 70 percent of females

report having had intercourse before their twentieth birthday. The proportion of sexually active teenagers increases with age. Just under 17 percent of boys and 6 percent of girls reported having had intercourse before the age of 15. Nearly 67 percent of boys and 44 percent of girls reported that they were sexually experienced by age 18 (computations of cumulative sexual activity by single year of age using data from the National Longitudinal Survey in Vol. II). Regardless of age, the first time adolescent girls have intercourse, they tend to have partners who are about three years older; boys' initial partners are approximately one year older (Zelnik and Shah, 1983).

**Race and Socioeconomic Status** Black boys and girls become sexually experienced at earlier ages than their white counterparts (on average about two years earlier) and, at every age, more black than white teenagers are having intercourse (Zelnik et al., 1981; Vol. II; Bauman and Udry, 1981; Newcomer et al., 1980; Newcomer and Udry, 1983). Sexually experienced blacks, however, appear to have intercourse slightly less frequently than whites (Zelnik et al., 1981; Zabin and Clark, 1981). While there is some evidence that young black girls are slightly more likely to be physically mature than whites of comparable ages (Harlan et al., 1980; Devaney and Hubley, 1981), these differences between the races in physical maturity seem too small to explain the large race differences in early premarital sexual activity (Moore et al., 1985).

Disagreement exists over the source of racial differences in the proportion of teenagers who are sexually active and the age of sexual initiation. Some researchers attribute the disparity wholly or in large part to socioeconomic differences among blacks and whites. Others trace it to significant normative differences in the acceptability of early sexual behavior. These explanations are not quite so divergent as they might first appear, since many who believe that there are subcultural differences trace them to economic and social disadvantage. One hypothesis in this regard suggests that neighborhood environments are very important. Because of past histories of residential segregation, most blacks (even middle-class blacks) live in neighborhoods that are substantially poorer than their white counterparts, and their children are subjected to different pressures than are their white peers (St. John and Grasmick, 1982; Hogan and Kitagawa, 1983). Similarly, the length of time an individual or his or her family has lived in poverty may affect sexual attitudes and behavior.

In addition, many who account for racial differences by socioeconomic

explanations concede that chronic economic disadvantages may give rise to different outlooks on marriage and family formation, which in turn affect the acceptability of early sexual behavior (Moore et al., 1986; Abrahamse et al., 1985). Blacks report a greater tolerance for sexual activity outside a marital relationship than whites; they rate marriage as less important than do whites; and they perceive a greater tolerance in their neighborhoods for childbearing outside marriage (Moore et al., 1985). Williams (1977, cited in Moore et al., 1986), for example, reports that of the pregnant black teenagers in his Rochester, N.Y., sample, 70 percent expected a favorable reaction from peers and 65 percent anticipated a positive reaction from the baby's father, compared with 40 and 43 percent, respectively, among the pregnant white girls he studied. Similarly, black teenagers interviewed in the 1976 National Survey of Young Women were considerably less likely to perceive condemnation of an unmarried mother in their neighborhood than were white teenagers (Zelnik et al., 1981). In some studies, blacks also indicate a preference for a younger age at first birth than age at first marriage, while whites report just the opposite (Zabin et al., 1984; Peterson as reported in Moore et al., 1986).

Such attitudes do not cause premarital sexual activity and teenage pregnancy, but neither do they discourage it (Moore et al., 1986). It may be that they simply reflect the prevalence of teenage pregnancy in the black community. As Hofferth points out (Vol. II:Ch. 1), it is difficult to understand the role of attitudes because most studies have been unable to sufficiently control for them. The point at which values and attitudes about premarital sexual activity are usually measured is after sexual initiation, and therefore it seems likely that sexual experience may have already influenced the respondent's views.

A recent unpublished analysis of data from the 1981 National Survey of Children attempted to examine the sources of racial differences in levels of sexual activity and age of initiation of sexual activity (Furstenberg et al., 1985b). Using a variety of indicators of socioeconomic status and social disadvantage, it was possible to reduce only a small portion of the racial difference in the incidence of sexual experience before age 16. However, much of the difference between blacks and whites could be explained by taking into account the racial composition of the schools attended by the survey participants. The investigators found high proportions of sexually experienced teenagers among blacks of the same social background who attended racially isolated schools compared with those who attended

schools with white students. Among blacks and whites who attended racially diverse schools, there were only modest differences in the probability of sexual intercourse. In addition, there was some evidence that the racial composition of the schools was also associated with differences in the acceptability of premarital childbearing. To some extent school segregation is, undoubtedly, a surrogate measure for low socioeconomic status among many blacks and reflects the pervasive conditions of disadvantage that characterize the neighborhood environments in which they live. However, further research on this difficult issue is needed.

In conclusion, the research on racial differences continues to show strong black-white differences in sexual intercourse at young ages, even controlling for socioeconomic differences. However, questions have been raised as to the adequacy of these controls, given the substantially unequal distribution of socioeconomic status by race, the inequality within categories of socioeconomic status, and the failure to control for the length of time an individual or his or her family has lived in poverty (Hofferth, Vol. II:Ch. 1). Similarly, repeated documentation of differences in attitudes and behaviors does not definitively resolve the source of racial differences. Whether any such race differences represent subgroup values or more transient attitudinal adjustments to external circumstances is not clear. The data do suggest, however, that there are differences in community standards and expectations that affect the acceptability of early sexual behavior in the peer group. If this finding is true, it has important implications for the kinds of strategies that are likely to be successful in lowering the rates of early pregnancy and childbearing among blacks as well as whites. Current efforts by black community organizations to modify adolescent attitudes may further illuminate this issue. Further research on this rather neglected topic is needed.

*Religiousness* Religiousness appears to be an important factor distinguishing early from later initiators of sexual activity. Devaney and Hubley (1981) found that women ages 15-19 were more likely to be sexually active if they were not regular church attenders and if they reported that religion was not very important to them. These findings are supported by numerous other studies (Inazu and Fox, 1980; Zelnik et al., 1981; Jessor and Jessor, 1975). Most researchers who have addressed this issue have found that the tendency to be devout and observant of religious custom and teaching is more important than any specific religious affilia-

tion. In particular, Catholicism, which was once regarded as a good index of conservatism on moral issues, has more recently been found not to be a very accurate predictor of sexual experience. Devaney and Hubley (1981) found no difference in the likelihood of reporting sexual experience between Catholics and those of other denominations. Protestant fundamentalism, however, which has gained visibility and followers in recent years, has frequently been associated with strong conservative positions on issues of sexual behavior. As Hofferth reports (Vol. II:Ch. 1), teenage adherents to fundamentalist denominations have been found less likely to have had sexual intercourse outside marriage than members of other denominations (Thornton and Camburn, 1983). Religious teenagers may also be those who are more traditional in general than other teenagers and therefore less likely to engage in behaviors that push toward adulthood (e.g., smoking, drinking). They may also have stronger social supports to enforce behavioral norms.

*Intelligence, Academic Aspirations, and Achievement* A number of studies suggest a strong association between low intellectual ability, low academic achievement, a lack of educational goals, and early sexual experience among both blacks and whites. Adolescent girls who score low on intelligence tests and place little value on educational attainment are more likely to have intercourse at an early age than those who are educationally ambitious. Conversely, those who score high on intelligence tests, are academically motivated, and are doing well in school are less likely to initiate sexual activity at a young age (Mott, 1983; Devaney and Hubley, 1981; Furstenberg, 1976; Hogan and Kitagawa, 1983; Udry et al., 1975; Moore et al., 1985; Jessor and Jessor, 1975; Jessor et al., 1983). An earlier analysis by Mott (1983) indicated similar results for young men ages 17-20.

The association between ability, educational aspirations, and performance and the lower likelihood of early sexual experience is undoubtedly tied to several interacting social, economic, psychological, and situational variables. For example, parents' level of education and their aspirations for their children can significantly influence teenagers' own attitudes and expectations about academic achievement (Davies and Kandel, 1981; Spenner and Featherman, 1978). Parents with more education are generally more affluent than parents with less education. Children in families with more educated parents tend to be more goal-oriented, to place a higher value on achievement, and to be more ori-

ented to work than play (Conger, 1973). Chilman (1980b) suggests that these characteristics may make a teenager less likely to engage in premarital intercourse during the junior high or high school years. She also suggests that, especially for girls, involvement in educational achievement (thereby pleasing parents and teachers) may inhibit interest in boys or may make girls less interesting to boys.

*The Nature of Sexual Behavior* Regardless of age, each adolescent boy and girl who enters a sexual relationship does so at a particular level of socioemotional and cognitive development and with whatever self-perceptions he or she has formed, as well as within a particular social and cultural context. At least until recently, studies showed that adolescents, especially young white women, gradually advanced their level of sexual intimacy through a series of dating and "going steady" experiences (Vener and Stewart, 1974). There was generally a learning period during which a boy and a girl became better acquainted and developed an affectionate relationship. Research on the incidence of these behaviors suggests that this pattern of gradually developing sexual intimacy during adolescence is still common among white youth, although it is beginning earlier and progressing more rapidly. It does not appear to hold true for young blacks, however.

Existing research findings concerning the nature of teenage sexual behavior, as McAnarney and Schreider (1984) suggest, derive from data on middle or older adolescents. Their applicability to the youngest teens is not clear. When young adolescent girls begin having intercourse, it is generally infrequent and unpredictable (Kantner and Zelnik, 1972). They frequently report the need to be "spontaneous," and therefore the event does not really reflect rational and planned behavior. Especially among very young adolescents, their level of logical operational thinking may not be sufficiently developed for them to recognize that having or not having intercourse is a choice and that without contraception it can result in pregnancy (McAnarney, 1982). As they become older, many researchers believe, teenagers become better able to make well-reasoned, conscious decisions about their sexual behavior. It is interesting to note, however, that research from other developed countries shows that even young sexually active teenagers can effectively avoid pregnancy (Alan Guttmacher Institute, in press). Self-esteem appears unrelated to the initiation of sexual activity for both boys and girls (Mott, 1983; Cvetkovich and Grote, 1980). Nevertheless, there is a dearth of well-

developed theoretical models to explain and predict sexual decision making by adolescents (Libby and Carlson, 1973).

Research findings also suggest that sexual activity is generally not an isolated behavior. Adolescents who are sexually active at an early age are also frequently involved in other behaviors that push toward independence and adulthood, often in conflict with adult norms for them. Among transition behaviors most often associated with early sexual activity are smoking, drinking, and drug use (Jessor and Jessor, 1975; Jessor et al., 1983). The extent to which there may be a causal link among these behaviors is not fully understood. There is ambivalence in our society about whether these behaviors represent a healthy assertion of independence or deviant (if not delinquent) behavior (Ensminger, Vol. II:Ch. 2). In this regard, Jessor et al. (1983) suggest that the decision by an adolescent to become sexually active may more accurately reflect the conscious or unconscious decision to assume a particular life-style rather than to adopt a single isolated behavior.

Early dating appears to be associated with early sexual experience (Furstenberg, 1976; Spanier, 1975). The more frequently teenagers (especially girls) date, the more likely they are to have intercourse (Simon and Gagnon, 1970; Presser, 1976b). In addition, while survey data show that more teenagers are sexually active and that there has been a relative decrease in the number of their partners (Zelnik, 1983), several studies suggest that the more committed the relationship between young people, the more likely they are to have intercourse (Spanier, 1975; Furstenberg, 1976; Sorenson, 1973; Reiss, 1976).

#### *Family Characteristics*

*Parental Support and Controls* A number of studies have found that the nature of their relationships with parents affects teenagers' sexual behavior. Adolescent girls are more likely to have premarital intercourse if their mothers fail to combine affection with firm, mild discipline and to set clearly defined limits on behavior. However, as Hofferth (Vol. II:Ch. 1) suggests, since adolescence is a time of testing one's independence and gradually growing away from parents, it is also possible that a decline in the closeness of a mother-daughter relationship follows the initiation of sexual activity rather than preceding or causing it. Alternatively, both decline in closeness and initiation of sexual intercourse could be the result of increased independence.

Some studies also show that young people are more likely to be sexually experienced if they perceive themselves to be in poor communication with their parents and feel that they receive little parental support (Simon et al., 1972; Jessor and Jessor, 1975). As Hofferth (Vol. II:Ch. 1) points out, however, parent-child relationships and parent-child communication, although important, seem to have an ambiguous association. As a result, there is no clear implication for program development. There is evidence that close relationships may be associated with less sexual activity among younger teenagers (Inazu and Fox, 1980). Jessor and Jessor (1975) similarly found that the more consistent the values of teenagers and their parents, the greater sense of connectedness and supportiveness between them, and the closer the young people's ties to home, the less likely they were to become sexually active.

Yet communication may be associated with a higher level of sexual activity among teenagers than a lower one, especially among older teenagers. First, in many cases, less parent-child communication takes place than is commonly assumed; second, such communication, whether to provide information or to prescribe behavior, may not be fully heard by the child; and third, communication about sexual behavior frequently does not occur until after initiation of sexual activity (Newcomer and Udry, 1983; Inazu and Fox, 1980). Fox (1981) points out that parents' (especially mothers') roles in sex education are relatively minor, and that the more traditionally oriented mothers are on matters of sexual morality, sex roles, etc., the less likely they are to initiate discussions of these topics with their children. Unfortunately, however, as Hofferth (Vol. II:Ch. 1) points out, there is little research to specify the context of communication or to distinguish the effects of communication before and after initiation of sexual activity.

One recent study that was able to make this distinction found no relationship between the frequency of communication about sexual topics (before initiation) with the mother or father and the sexual activity of the daughter (Kahn et al., 1984). For boys, communication with the mother was associated with less subsequent sexual activity; communication with the father was associated with more sexual activity. Kahn et al. (1984) conclude that perhaps fathers implicitly, if not explicitly, condone sexual activity among sons, without providing the emphasis on responsibility that mothers communicate.

As with parental communication, the research on the relationship between parental supervision or control of adolescent behavior and the

initiation of sexual activity also suggests conflicting results. Hogan and Kitagawa (1983) found that more supervision was associated with less sexual activity among a sample of inner-city black girls. In contrast, other researchers have found that more supervision was unrelated to the initiation of sexual activity (Inazu and Fox, 1980; Newcomer and Udry, 1983). As Hofferth (Vol. II:Ch. 1) points out, generalizations about the impact of parental supervision on sexual activity are not possible without further study.

*Other Family Characteristics* There is a strong relationship between a mother's sexual and fertility experience as a teenager and that of her daughter (Newcomer and Udry, 1983; Presser, 1976b). The earlier the mother's first sexual experience and first birth, the earlier the daughter's experience.

Other family factors that appear to affect the level and quality of parental supports and controls, and perhaps in turn influence sexual behavior among teenagers, include family intactness, family composition, and mother's age at marriage. Several studies have shown that girls in nonintact or female-headed families are more likely to become sexually experienced at an early age than those in two-parent families (Zelnik et al., 1981; Newcomer and Udry, 1983; Moore et al., 1985; Inazu and Fox, 1980). Similarly, the larger the family (the more siblings present), the more likely that an older sibling will be sexually active and provide a model for younger siblings (Hogan and Kitagawa, 1983).

Although there is strong evidence of these associations, the mechanisms by which they affect adolescent sexual behavior are not fully understood. For example, some researchers hypothesize that the stress resulting from parental separation or divorce and from the presence of several siblings may cause teenage children (especially daughters) to perceive a lack of attention and affection from their mothers and may lead them to seek such attention in sexual relationships. Others suggest that the inevitable stress of such circumstances may make it more difficult for parents to adequately supervise their teenagers. Still others suggest that, particularly in families in which there has been a divorce or the mother became sexually active at an early age, parents (especially mothers) may indirectly communicate an attitude of permissiveness. All of these are plausible explanations, and they warrant further exploration.

### *Peer Group Influence*

Although research on peer influences on early sexual activity is relatively limited, the attitudes and behavior of peers is frequently cited as the single most important factor affecting the initiation of intercourse by adolescents. It appears, however, that peer influence may have been overrated, particularly among blacks and white males. Hofferth (Vol. II:Ch. 1) cites several significant problems with the research, including the facts that (1) the same individual typically reports on his or her own as well as his or her friends' attitudes and behavior without independent validation and (2) data have been gathered at only one point in time, thus preventing researchers from detecting delayed effects.

Several studies suggest that same-sex peers are a major source of information about sex (Libby and Carlson, 1973; Miller, 1976; Thornburg, 1978). In addition, Cvetkovich and Grote (1980) report that the proportion of their same-sex peers that teenagers believe are sexually experienced and how sexually liberal they believe them to be are powerful predictors of sexual experience among adolescent boys and girls. Newcomer et al. (1980), however, conclude that individual behavior and attitudes are more closely related to what teenagers think their friends do and believe than to what is actually going on. It appears that many teenagers act on perceptions of their friends' attitudes and behavior, whether or not their perceptions are correct.

Peer pressure can take several forms (e.g., challenges and dares, coercion, social acceptability), and its influence seems to vary among young people of different ages and genders. There is some evidence that white boys choose their friends on the basis of sexual activity. Blacks, however, appear neither to be influenced by friends' behavior nor to choose friends on that basis (Billy and Udry, 1983). Girls may be swayed to some extent by what they think or know their female friends are doing, but they are more strongly influenced by their best male friends and their sexual partners (Miller and Simon, 1974; Herold, 1980; Cvetkovich and Grote, 1980; Billy and Udry, 1983). Lewis and Lewis (1984) found that among young adolescents (10-14) peer pressure in the form of challenges and dares significantly influences sexual involvement at several levels (e.g., kissing, fondling, and intercourse), especially among girls. Billy and Udry (1983, 1984), however, suggest that among black boys and girls, peer influence is relatively minor. In general, white girls appear to be most susceptible to peer influences in sexual decision making.

Because adolescence in general is a period in which children's orientation shifts away from parents toward peers, it seems likely that peer influence varies according to age. As teens get older, peers become more influential. Although the body of findings is not conclusive, it also seems likely that the relative influence of peers and parents may also vary depending on the issue. Thus, for example, parents may be more important in teenagers' establishing life goals and developing aspirations, while peers and sexual partners may be more important in forming attitudes about sexual activity. As Hofferth (Vol. II:Ch. 1) points out, however, while peer pressure has been consistently pointed to as an important factor in teenage sexual activity, there is only weak evidence that an individual's behavior changes as a result of interaction with a peer.

#### DETERMINANTS OF CONTRACEPTIVE USE

The existing research suggests that several factors are strongly associated with contraceptive use by unmarried, sexually active teenagers. Among the most important of these are age of initiation, having a stable relationship with a sexual partner, knowledge of reproduction and contraception, acceptance of one's own sexuality, academic aspirations, and parental support and controls.

##### *Age at Initiation*

The older the adolescent girl at the time of initiation of sexual activity, the more likely she is to use contraception and to use it regularly and effectively (Kantner and Zelnik, 1972; Zelnik and Kantner, 1977; Zabin and Clark, 1981; Devaney and Hubley, 1981). In addition, the older the girl, the more likely she is to use a medical method, primarily the pill (Zelnik et al., 1981). Younger girls more often report that they have never used contraception, in part because they have had less time to develop patterns of use. Younger girls are also more likely to be sporadic and ineffective contraceptive users, and they are more likely to rely on male methods (Kantner and Zelnik, 1972).

Since a higher proportion of blacks are very young when they initiate intercourse, blacks have a higher incidence of sexual activity without contraception. However, controlling for this difference in age at initia-

tion of sexual activity, blacks are as likely as whites to practice contraception. Among boys, regardless of race, age appears to have little effect on contraceptive use at first intercourse.

##### *Nature of the Relationship*

Several studies show a strong association between the stability and degree of commitment in male-female relationships (e.g., going steady, engaged to be married) and the use of contraception (Devaney and Hubley, 1981; Herold, 1980; Hornick et al., 1979; Freeman et al., 1980; Luker, 1975). Devaney and Hubley (1981) found this to be especially true among black teens. Adolescents in such relationships generally engage in intercourse more frequently than adolescents without strong romantic ties to one partner. They are also more likely to use oral contraceptives (Kantner and Zelnik, 1972; Luker, 1975). However, other evidence indicates that teenagers who report frequent sexual activity with different partners are also more likely to use contraceptives than those who have intercourse infrequently.

##### *Academic Aspirations and Achievement*

Among both blacks and whites, those girls who have clear educational goals and expectations and are performing well in school appear more likely to use contraception than those who lack a strong achievement orientation (Devaney and Hubley, 1981). Similarly, the better educated their parents, the more likely adolescent girls are to use contraceptives consistently (Zelnik et al., 1981). Cvetkovich and Grote (1980) found that the same was true for black boys. Black girls are more likely than whites, net of other factors, to have used a medical method of contraception (e.g., the pill or IUD) at last intercourse, and black girls with better educated parents are even more likely than their peers to have used a medical method (Zelnik et al., 1981). Furstenberg and Brooks-Gunn (1985b), in their follow-up study of teenage mothers in Baltimore, found that many young women in their sample were below grade level at the time they became pregnant, suggesting a potentially significant relationship between school achievement and the likelihood of an unintended pregnancy. Other researchers have also found this relationship (Wertheimer and Moore, 1982).

*Knowledge of Reproduction and Contraception*

Many adults assume that if adolescents know how their bodies work, the time each month when females are at greatest risk of pregnancy, the methods they can use to protect against unintended pregnancy, and how to obtain contraceptives, they will be more likely to seek out family planning services and to use methods of contraception effectively (McAnarney and Schreider, 1984). Indeed, available research findings confirm the fact that knowledge about sex and contraception are associated with greater frequency of contraceptive use among boys and girls (Cvetkovich and Grote, 1980). In addition, most teenagers, even young ones, have a general understanding of conception, and they know that a girl can become pregnant if she has intercourse (Moore et al., 1986; Jenkins, 1983; Zabin and Clark, 1981). However, researchers who have questioned adolescent girls about their levels of sexual knowledge have found that many teenagers do not know enough of the basic facts to use contraception effectively (Zelnik and Shah, 1983). The level and accuracy of knowledge among teenage girls who are sexually experienced and those who are not differ very little (Kantner and Zelnik, 1972). Similarly, comparisons of adolescent girls seeking contraception, seeking abortion, or carrying a pregnancy to term show little difference in their levels of knowledge about sexuality and birth control (Goldsmith et al., 1972).

As Moore et al. (1986) point out, some types of sexual knowledge are inevitably more crucial than others, and primary in this regard is an understanding of pregnancy risk. Despite what they have learned about timing and the risk of becoming pregnant, many younger adolescents apparently believe they are not at risk because they are so young (Kantner and Zelnik, 1973). Those just entering puberty may be accurate, yet, as they become fully mature, these girls will be as vulnerable to pregnancy as adult women. Many others who successfully avoid pregnancy initially come to believe they are immune and do not need to use contraception (Moore et al., 1986). As previously discussed, many researchers conclude that younger teenagers are handicapped in assessing the personal risk of pregnancy because of their cognitive immaturity (Cvetkovich and Grote, 1975; Cobliner, 1981; McAnarney and Schreider, 1984). Since many are still incapable of thinking abstractly and relating actions to specific consequences—particularly when their early personal experience is contrary to what they have learned—they have a

difficult time planning for sexual intercourse and using contraception. This has not been shown in cross-cultural studies of adolescent sexual behavior, however (Alan Guttmacher Institute, in press).

As McAnarney and Schreider (1984) point out, the issue here is not just whether more sex education should be directed at adolescents; they conclude that it should. What seems to be more critical, however, is the need to develop a better understanding of the relationship between what young people know and how they behave. A recent important study of a small sample of model sex education programs found that, while a variety of programs were quite effective at increasing teenagers' level of knowledge about conception and contraception, they had little impact on their behavior: whether they became sexually active and whether they used contraception (Kirby, 1984). The relationship between what adolescents know and how they behave is perhaps the most salient issue.

*Acceptance of One's Own Sexuality and Attitude About Contraception*

Several studies have found regular and effective contraceptive use among adolescent girls to be strongly associated with acceptance of their own sexual behavior. Girls who acknowledge that they are sexually active are more likely to obtain and use contraceptives (Lindemann, 1974). In addition, the more people who know about a teenager's use of birth control, the more likely she is to be contracepting (Philliber et al., 1983). Inability to acknowledge her own sexuality, on the other hand, may inhibit an adolescent girl from obtaining and using contraceptives. As a consequence, many have difficulty coming to terms with their own sexual behavior and admitting that they are violating internalized norms and taking pregnancy risks. Research has shown that many teenagers, especially younger girls, delay using contraceptives for up to a year after they become sexually active (Zelnik et al., 1981). In part, this may be a consequence of their inability to acknowledge their own sexuality.

Similarly, having a low level of guilt about one's sexual behavior and having a positive attitude about contraception are also strongly associated with effective use (Herold, 1980). In particular, fear that contraception will have negative health effects and will interfere with pleasure has been shown to be related to less frequent use (Cvetkovich and Grote, 1980; Poppen, 1979; Forrest and Henshaw, 1983). Related to this, Polit et al. (1981) found that teenage girls who believe that the female should take responsibility for birth control tend to be more effective contraceptors.

Although very little research has included teenage boys, available studies suggest that knowledge about and attitudes toward birth control are very important to contraceptive use as reported by boys (Cvetkovich and Grote, 1981; Polit et al., 1981). Unfortunately, levels of knowledge appear to be quite low (Finkel and Finkel, 1975).

#### *Developmental Characteristics*

Adolescent girls with a high level of self-esteem, who perceive that they have a large measure of control over their lives and that they are competent and capable of choosing and shaping their destinies, are more likely to be effective users of contraceptives than those who have a low sense of competence and believe that events in their lives are largely beyond their control. Similarly, girls who tend to be passive and to hold traditional attitudes about female dependence in male-female relationships are also generally poor contraceptive users (Cvetkovich and Grote, 1980; Fox, 1980; Steinhoff, 1976). Related to this, McAnarney and Schreider (1984) report that girls who are impulsive, who find it difficult to plan ahead, and who are risk-takers also tend to have poor records of contraceptive use. Taken together, these traits are related to low levels of ego development and to a lack of ego strength, which in turn are associated with poor contraceptive use (Miller, 1976). Among boys, those who are impulsive, socially irresponsible, and oriented to risk-taking tend to be poor users of contraceptives (Cvetkovich and Grote, 1980).

#### *Parental Support and Controls*

Several studies indicate that if a teenage girl has good lines of communication with her mother and her mother is a source of information about birth control, she is likely to be a more frequent user of contraceptives (Furstenberg, 1976; Flaherty and Maracek, 1982). Mothers with positive birth control attitudes are more likely to discuss contraception with their daughters, as do those who have greater knowledge of reproduction and contraceptive methods. These discussions, even if they are isolated or infrequent, appear to positively influence teenage contraceptive use (Fox, 1980, 1981). Similarly, family support (especially from mothers) in seeking family planning services and following a birth control regimen appears to lead to more consistent contraceptive use

(Ktsanes, 1977). Furthermore, there is evidence that the type of maternal discipline employed is associated with frequency of contraceptive use. In particular, daughters who are limited by parental rules and experience punishments for violations, and for whom restrictions of privileges are imposed rather than corporal punishment, are more likely to use contraception (Flaherty and Maracek, 1982). Unfortunately, however, most of these studies have failed to control for other confounding factors, such as socioeconomic status and family structure, which may significantly affect the strength of the reported findings.

As Hofferth (Vol. II:Ch. 3) concludes, most family background variables (e.g., family composition and size, socioeconomic status, etc.) appear to be less directly related to teenage contraceptive use than are mother-daughter communication about contraception and mothers' support of their daughters' use of contraception. Neither religiousness nor religious affiliation, for example, was found to be associated with contraceptive use, net of other factors (Zelnik et al., 1981). Parents' education, both mothers' and fathers', is the one background factor that does seem to affect daughters' use of birth control methods. However, the mechanism by which parental education affects contraceptive use among adolescents is not well understood. Does parents' education influence teenagers' achievement orientation and thereby affect their use of birth control? Or do better educated parents tend to discuss contraception more openly with their adolescent children and to be more supportive of their teenagers' use of birth control? Or both? These questions cannot be answered on the basis of existing knowledge. The role of peers in contraceptive use is also poorly understood.

Why some youth are effective contraceptive users and others are not is still a little researched issue (Hofferth, Vol. II:Ch. 3). In particular, we know little about actual contraceptive practice and why contraceptive failure rates vary by age.

#### DETERMINANTS OF ABORTION

The existing research on this topic suggests that a number of factors are associated with the decision to terminate a pregnancy by abortion. Among the most important of these are whether the pregnancy was intended, contraceptive use, academic aspirations, the influence of family and peers, and access to abortion services.

*Unintendedness*

Among the most important factors affecting the outcome of a pregnancy is whether it was intended. Girls who report that they wanted the pregnancy are more likely to give birth, while those who report that they did not want the pregnancy are more likely to have an abortion (Zelnik et al., 1981). The issue of intendedness is complicated, however, since reports of whether a pregnancy was wanted are generally collected after the pregnancy has been discovered. In many situations it seems likely that although the conception was unintended, a girl may decide in retrospect (either consciously or unconsciously) that she must have wanted to be pregnant once she learns that she is pregnant and has decided against obtaining an abortion.

*Academic Aspirations and Achievement*

Girls who are doing well in school before pregnancy and who have a strong future orientation are more likely to choose abortion to resolve an unintended pregnancy than those who are not good students and who lack high educational and vocational goals (Steinhoff, 1976; Evans et al., 1976; Eisen et al., 1983; Leibowitz et al., 1980; Devaney and Hubley, 1981). This holds for both blacks and whites. As with contraception, parental education also appears to be a very significant factor in pregnancy resolution. The higher the parents' level of education, the greater the likelihood that a teenager will have an abortion rather than carry an unintended pregnancy to term (Zelnik et al., 1981).

*Contraceptive Use*

Concern that abortion may become a substitute for contraception is not supported by the available research. In 1979, teenagers who had terminated an unintended pregnancy by abortion were less likely to have experienced a second pregnancy within two years than those girls who carried their first pregnancy to term (Koenig and Zelnik, 1982). Data from the National Center for Health Statistics suggest that about 12 percent of abortions to 15- to 17-year-olds and 22 percent of abortions to 18- to 19-year-olds are repeat abortions (National Center for Health Statistics, 1984b). Furthermore, clinic studies show that, three weeks following an abortion, less than 10 percent of girls were not using any

method of contraception, while more than 80 percent were using the pill or IUD (Alan Guttmacher Institute, 1981). Although such studies using clinic patients undoubtedly reflect the behavior of a self-selected sample, they do suggest that contraceptive behavior following an abortion may be better rather than worse among some teenagers (Forrest and Henshaw, 1983).

*Family Characteristics*

Several studies of adolescent girls who choose abortion have found that family background factors are significant predictors. In particular, it appears that whites are more likely than blacks to terminate an unintended pregnancy, and that girls from families with higher socioeconomic status are more likely to abort than those from poverty backgrounds, especially from families on welfare (Zelnik et al., 1981). A note of caution in the interpretation of socioeconomic data is important, however, because survey respondents tend to underreport pregnancy and abortion. Girls from less religious families have been found more likely to choose abortion than those from more devout families. Surprisingly, however, rates of abortion were found to be higher for white Catholic girls than for either white non-Catholics or Hispanic Catholics, suggesting that religious affiliation may not be an important determination in the decision to abort (Eisen et al., 1983).

Parents', especially mothers', attitudes about abortion have also been shown to significantly influence the outcome of an unintended pregnancy. Girls whose mothers are more favorably disposed to abortion are less likely to have a birth (Eisen et al., 1983). Among very young teenagers, it appears that parents have a major influence on the decision to terminate a pregnancy (Steinhoff, 1976; Rosen, 1980).

*Peer Influences*

The attitudes of peers also seem to influence decisions concerning pregnancy resolution. The more positive a girlfriend's or boyfriend's opinion of abortion, the less likely an adolescent girl is to have a birth (Eisen et al., 1983). In contrast, girls who have friends or family members who are teenage single parents are more likely to carry their pregnancies to term (Eisen et al., 1983).

*Access to Abortion Services*

Teenagers are less likely than women in their twenties to obtain abortions during the safer, earlier weeks of gestation. The younger the teenager, the more likely she is to delay. As the Alan Guttmacher Institute (1981) reports, only 34 percent of abortions to girls age 15 and younger are performed during the first eight weeks of gestation, compared with 41 percent of abortions among girls ages 15-19, and 51 percent of those among women ages 20-24. At the other extreme, 14 percent of abortions to girls 15 and younger are performed at 16 weeks and later (Alan Guttmacher Institute, 1981). Such delays increase the health risks associated with pregnancy termination.

The Alan Guttmacher Institute (1981) cites several likely reasons for the delay. First, many teenagers, particularly the very young, fail to recognize the signs of pregnancy early. Many adolescent girls ordinarily experience menstrual irregularities and therefore do not distinguish them from early signs of pregnancy. Many others simply deny the unpleasant reality of an unintended pregnancy until it becomes unavoidable. In addition, access to abortion services appears to be limited for many teenagers. Though most school-age adolescents, especially very young teenagers, consult their parents in deciding to obtain an abortion, parental consent requirements in many states (or the perception of such requirements) are thought to inhibit some teenagers from seeking and obtaining abortions. Geographical distance from clinics or hospitals that perform abortions, as well as costs, have also been shown to limit teenagers' access to abortion, especially school-age girls and those from poor families (Alan Guttmacher Institute, 1981).

#### DETERMINANTS OF MARRIAGE BEFORE CHILDBEARING (LEGITIMATION)

Although there are more conceptions to unmarried adolescents now than a generation ago, they are less likely today to resolve a pregnancy by marrying. The proportion of unmarried adolescents conceiving who married before the birth decreased from approximately 31 percent in 1970 to approximately 23 percent in 1981 (O'Connell and Rogers, 1984).

The existing research on determinants of marriage to legitimate a birth is limited. Nevertheless, race, age at initiation, and the availability of financial assistance appear to be significant factors.

*Race and Socioeconomic Status*

White teenagers and those from families of higher socioeconomic status are more likely, if they are pregnant, to marry before bearing a child (Zelnik et al., 1981; O'Connell and Moore, 1980). In 1980-1981, approximately 28 percent of white unmarried teenagers ages 15-19 who conceived were married before the birth. In contrast, only about 9 percent of all black teenagers married to legitimate a birth (O'Connell and Rogers, 1984). Indeed, in all age groups, black women are now more likely to be unmarried than to be married (Moore et al., 1986). Among teenagers, however, the primary reason is never having married rather than divorce, separation, or the death of a spouse.

*Age*

Older teenagers are more likely than younger ones to marry to legitimate a birth. In 1981 only 11 percent of 14-year-olds married, while 63 percent of 19-year-olds married before bearing a child (O'Connell and Rogers, 1984). The highest proportion of marriages occurs among older white teenagers.

*Availability of Financial Assistance*

Two recent studies have found that two factors are strongly associated with decisions to carry a premarital pregnancy to term: (1) the availability of financial aid from the family of origin and (2) the availability of public financial assistance (Eisen et al., 1983; Leibowitz et al., 1980). They found that a major factor distinguishing those who married from those who gave birth without marriage was the source of support. Girls whose families had been receiving financial aid from the state during their pregnancies were less likely to marry than those who had not received such assistance (Eisen et al., 1983). In contrast, Moore and Caldwell (1977) found no significant association between Aid to Families With Dependent Children benefit levels and acceptance rates and whether a pregnant teenager married before the birth.

#### DETERMINANTS OF ADOPTION

Because there are no systematically collected national data on adoption, it is impossible to derive precise estimates of the number and proportion of teenagers who choose this means of pregnancy resolution.

There is also very limited research comparing teenagers who make adoption plans and those who keep their babies and raise them as single mothers. As Hofferth (Vol. II:Ch. 4) reports, the results suggest that teenagers who make adoption plans are similar to those who have abortions but differ from those who take on parenting responsibilities. They tend to be older and to come from families of higher socioeconomic status. They tend to have stronger academic ambitions and to be performing better in school. They tend to hold more traditional attitudes about abortion and family life. In contrast, parenting teenagers tend to have less schooling, to have dropped out of school, to have less well formulated educational and occupational goals, and to come from single-parent families (Hofferth, Vol. II:Ch. 4).

There is virtually no research on factors affecting the decision of unmarried adolescents to place their children for adoption. However, two studies are now under way that may shed some light on this important topic (Kallen, 1984; Resnick, 1984).

#### DETERMINANTS OF NONMARITAL CHILDBEARING

The existing research suggests that several factors are strongly associated with nonmarital childbearing: race, attitudes, poverty and unemployment, and the availability of financial assistance.

##### *Race*

Although the rate of childbearing has increased dramatically among unmarried white adolescents since 1970, black adolescents have always been more likely to give birth outside marriage. Black teenagers account for 14 percent of the adolescent population and 46 percent of all births to unmarried 15- to 19-year-olds (National Center for Health Statistics, 1984b). In 1982, over 98 percent of births to black teenagers under age 15 occurred outside marriage, and 87 percent of births to black teenagers ages 15-19 occurred outside marriage. The comparable figures for white teenagers in these age groups were 78 and 36 percent, respectively (Vol. II:appendix tables, section on births).

The underlying causes of childbearing among unmarried young black adolescents are complex and difficult to disentangle. Most researchers agree that the rising proportion of births to unmarried black teenagers over the past generation is attributable to the declining rate of marriage to legitimate a birth. In part it is also attributable to changing patterns of

sexual activity and contraception among blacks. Black girls are twice as likely as white girls to have premarital intercourse, and they generally become sexually active at younger ages than whites. The higher proportion of blacks who are very young when they first have intercourse is associated with a higher incidence of sexual activity without contraception. As one might expect, blacks are more likely to become pregnant and to become pregnant at younger ages. They are also disproportionately more likely to resort to abortion. However, since the higher abortion rate among blacks does not erase the dramatic race difference in rates of unintended pregnancy, births are much more prevalent among black than white teenagers (Moore et al., 1986).

##### *Attitudes Toward Nonmarital Childbearing*

There are many accepted family forms in the black community, including the nuclear family (father, mother, and children), the attenuated family (father or mother and children), the extended, multigenerational family (some combination of grandparents, aunts, uncles, parents, and children), and augmented families (one of the above types that also includes unrelated friends, boarders, or guests) (Billingsley, 1970). As several scholars have commented, this diversity of family forms makes single parenthood less unusual and provides more socially acceptable opportunities for accommodating young black single mothers and their children than are available in the white community (Williams, 1977, cited in Moore et al., 1986; Miller, 1983). Stack (1974) describes a support network among low-income urban blacks that helps cushion individuals from the conditions of life in poverty. She concludes that many young mothers find greater security in this network than in marriage. Black families seem to be more supportive of young mothers, and it may be that this supportiveness ameliorates a teenager's fear of becoming a mother (Moore et al., 1986). Still, many researchers and advocates argue that childbearing by unmarried adolescents is not highly valued in the black community. Although there is a greater tolerance of unmarried parenthood, it is generally viewed as unfortunate (Moore et al., 1986). Furstenberg (1976) found that among a low-income urban clinic population, only 20 percent of teenagers were pleased to learn they were pregnant; another 20 percent had mixed feelings; and the remainder were disappointed or upset. Very few of these teenagers reported that their mothers were pleased; most mothers were reportedly hurt and depressed or angry (Furstenberg, 1976).

As discussed earlier, differences in attitudes about childbearing by very young unmarried teenagers appear to be closely related to community and neighborhood standards of tolerance and acceptability. Most blacks live in poorer neighborhoods than whites. Therefore, as many researchers argue, race differences in adolescent pregnancy and childbearing may be significantly linked to social and economic disadvantage (Hogan and Kitagawa, 1983).

Recent research also suggests that an important factor influencing attitudes about nonmarital childbearing are perceptions of opportunities that are unrelated to reproductive behavior. In short, willingness to bear a child outside marriage is closely related to the implied costs of doing so (Abrahamse et al., 1985). These researchers infer that among low-income girls with low academic and occupational expectations living in single-parent families, the perceived opportunity costs of early, nonmarital childbearing were very low, since their willingness to risk such parenthood was quite high. They infer that young girls whose lives and perceived opportunities are not currently gratifying may be more open to motherhood, which they may perceive as a potential source of gratification. Because blacks are more likely than whites to be poor, to live in nonintact families, and to demonstrate low academic ability and have low expectations, they may also be more willing to bear a child while unmarried (Abrahamse et al., 1985). Nathanson and Becker (1983), however, were unable to find any relationship between perceived opportunities and the contraceptive behavior of adolescents.

Abrahamse et al. (1985) also showed a strong relationship between rebelliousness (i.e., disciplinary problems in school, cutting classes, and absenteeism) among adolescent girls and willingness to become an unmarried mother. Similarly, girls who reported that they rarely talked to their parents about their plans and activities expressed greater willingness to have a child outside marriage than those who reported that they talked to their parents often. And girls who reported that their parents were less likely to monitor and keep track of their activities were also at greater risk of unmarried motherhood, although this pattern was found to be much stronger for whites than for blacks (Abrahamse et al., 1985).

#### *Poverty and Unemployment*

As previously discussed, bleak social and economic prospects for many black girls from low-income families may be associated with their early

initiation of sexual activity and lack of effective contraceptive practice. Poverty and poor employment opportunities are closely associated with nonmarital childbearing (Presser, 1974; Ross and Sawhill, 1975; Furstenberg, 1976). High rates of youth unemployment and a lack of economic resources, especially among black teenagers, frequently make marriage unmanageable for an adolescent couple, despite the impending birth of a baby.

#### *Availability of Financial Assistance*

Concern over the high rates of welfare dependence in the United States have led many critics to question whether the availability of Aid to Families With Dependent Children (AFDC) and other, noncash benefits is an unfortunate incentive for young women to give birth outside marriage. The existing body of research suggests that there is no evidence to support this assumption, although the relationship between welfare and unmarried adolescent childbearing is complex (Ross and Sawhill, 1975; Presser, 1974; Moore and Caldwell, 1977; Ellwood and Bane, 1984). Presser (1974) found that there were no significant differences in fertility attitudes or behaviors among the welfare recipients and nonrecipients in her New York City study. Similarly, Furstenberg (1976) found that unmarried teenage girls do not get pregnant in order to receive public assistance, but that girls from low-income, female-headed families (many of whom are receiving welfare benefits) are more likely to become single mothers themselves. Moore and Caldwell (1977) suggest that because welfare assistance is available, a young woman faced with a premarital pregnancy may be more likely to choose single parenthood over abortion or adoption or marriage, especially if the father is a poor prospect for support. They found little empirical evidence, however, that welfare benefit levels affect decisions to become sexually active, to become pregnant, or to marry or have an abortion, or to relinquish a child for adoption. As they note, the vast majority of adolescent pregnancies are unintended, and welfare is only one of a number of factors that influence teenagers' decisions regarding pregnancy resolution. Finally, Ellwood and Bane (1984) conclude that largely unmeasurable differences in culture, attitudes, and expectations, rather than differences in levels of welfare support, explain differences in birth rates to unmarried teenagers across the country.

## CONCLUSION

As this chapter has described, a variety of individual, family, and social factors are associated with sexual behavior and decision making. Some of these factors directly affect decisions to initiate sexual activity, to contracept, to abort, to marry, or to have a child while unmarried. Others affect decisions indirectly by influencing other relevant factors.

Among the most important factors are adolescents' attitudes about sexual behavior, contraception, abortion, marriage, and single parenthood. Attitudes are inevitably tied to the specific social, economic, and cultural circumstances of a person's life, as well as to a person's overall development as a masculine or feminine human being. Attitudes are related in complex ways to the development of aspirations, interests, and abilities, the capability to form intimate interpersonal relationships, and the transition from dependence on families of origin to independence, marriage, and parenthood.

Several studies of social and psychological factors associated with adolescents' sexual behavior conclude that self-perception (not self-esteem)—that is, the sense of what and who one is, can be, and wants to be—is at the heart of teenagers' sexual decision making. The perception (rather than the reality) of peer attitudes and behaviors also appears to be central and, as McAnarney and Schreider (1984) suggest, applies to both boys and girls. It is what governs one's internal response to external influences and events, and it is the basis for assessing the risks and consequences of sexual behavior.

We have seen that an important aspect of self-perception among teenagers is their educational, occupational, and family formation expectations. Expectations, in turn, are significantly influenced by perceptions of opportunities, regardless of whether these perceptions reflect reality. Teenagers, especially girls, with a strong achievement orientation and clear future goals are less likely to become sexually involved at an early age, more likely to be regular and effective contraceptors if they are sexually active, and less likely to bear a child if they experience an unintended pregnancy. In contrast, girls who lack a strong achievement orientation and who have low educational expectations are more likely to become sexually involved at a young age, to be less regular and effective contraceptors, and to carry an unintended pregnancy to term. These findings suggest that for adolescents with clearly formulated expectations and high aspirations, their perceptions of the risks of preg-

nancy, when measured against their perceptions of future potential, are quite high. Many other teenagers, however, do not perceive the risks as great enough to deter sexual activity without contraception. They are the ones at highest risk of pregnancy and childbearing.

Research underscores the variety of family background characteristics, psychological factors, and environmental conditions that influence teenagers' self-perceptions and, in turn, influence their perceptions of the risks of pregnancy and childbearing. Race, socioeconomic status, family structure, family size, and parents' education are strongly associated with attitudes about sexual and fertility behavior. Yet, as several researchers point out, not all adolescent girls from poor black inner-city backgrounds or rural white poverty and not all girls from single-parent households or from large families are at higher risk of early pregnancy and childbearing (Furstenberg and Brooks-Gunn, 1985b; McAnarney and Schreider, 1984). What makes the difference? It remains for future research to answer this essential question about the factors affecting sexual decision making among adolescents and the mechanisms by which they work.

# 5

## Consequences of Adolescent Childbearing

Scientific knowledge about the risks and consequences of adolescent childbearing has grown in the past 15 years. A substantial body of research now exists indicating that becoming a parent as a teenager leads to lower social and economic attainment for young mothers and their families and that it entails considerable health and developmental risks. As many researchers note, individual differences such as family background, race, and socioeconomic status influence the attainment of young women and their families. Nevertheless, early childbearing appears to have independent negative effects beyond the impact of social, economic, and cultural factors (Moore and Burt, 1982). In some cases the mother's age directly affects outcomes; in other cases the mother's age influences other relevant factors that in turn affect her social, economic, and physical well-being and that of her child.

This chapter discusses the consequences of adolescent pregnancy and childbearing in terms of health risks and outcomes, educational attainment, family structure and size, work status and income, financial dependence and poverty, and socioemotional and cognitive outcomes for the children of teenage mothers.

### HEALTH RISKS AND OUTCOMES

Research on the health risks and outcomes of adolescent pregnancy and childbearing shows that pregnant teenagers, especially those under age 15, have higher rates of complications, maternal morbidity and mortality, and premature and/or low birthweight babies (Strobino, Vol. II:Ch. 5).

Miscarriages and stillbirths are more frequent among teenagers than among adult women (Menken, 1980; Mednick and Baker, 1980). In addition, children born to teenage mothers are more likely to be injured and to be hospitalized by age five (Taylor et al., 1983). However, despite some evidence that the health risks to teenage mothers and their babies cannot be entirely eliminated, in general the medical problems associated with adolescent pregnancy can be greatly reduced with appropriate health care, especially prenatal care and good nutrition (Strobino, Vol. II:Ch. 5; Institute of Medicine, 1985; Baldwin and Cain, 1980; Griffiths, 1977; Hardy and Flagle, 1980; McAnarney et al., 1978).

Many researchers and health care professionals believe that the greatest difficulty in this regard is the behavior patterns of teenagers themselves. It is not unusual for them to neglect their physical health, regardless of pregnancy (Marino and King, 1980). In addition, poor eating habits are relatively common among this age group. Among low-income teenagers, for whom the financial impediments to good health care and nutrition are greater, poor health and poor health habits are even more prevalent. Often they enter pregnancy with poor health habits; they fail to make the necessary adjustments in their life-style to promote a healthy pregnancy; and they often do not seek regular prenatal care until late in the pregnancy, if at all (Alan Guttmacher Institute, 1981; Children's Defense Fund, 1985). As a consequence, teenage mothers from low-income families are at especially high risk of pregnancy complications, and their babies are at greater risk of long-term health and developmental problems. Recent research in the United States has concluded that many adverse health consequences found to be associated with teenage pregnancy and childbearing in pre-1970 studies may be due to socioeconomic factors that were not adequately controlled rather than to young age per se (Makinson, 1985; Menken, 1980; Hollingsworth et al., 1982).

Despite the fact that many of the health problems associated with early pregnancy and childbearing can be dramatically reduced with early, regular, and risk-appropriate (i.e., appropriate to the defined level of risk) prenatal care, the youngest mothers (those under age 15) and their infants face greater risks than older teenagers and adult women and their children. These very young mothers have high rates of pregnancy complications including toxemia, anemia, prolonged labor, and premature labor (Strobino, Vol. II:Ch. 5; Bonham and Placek, 1978; Menken, 1980). Mothers under age 15, for example, experience a rate of maternal death that is 2.5 times that for mothers ages 20-24 (Alan Guttmacher Institute, 1981).

Similarly, mothers under 15 are twice as likely to have infants that are premature or low birthweight (less than 5.5 pounds) (Alan Guttmacher Institute, 1981; Bonham and Placek, 1978; Jekel et al., 1975; Menken, 1980; Nye, 1976). As Moore and Burt (1982) point out, poor and black teenagers suffer proportionately more of these health difficulties than middle-class and white teenagers, and differences in rates by age (though relatively small) remain after race and income factors have been controlled.

Approximately 40 percent of all adolescent pregnancies are terminated by induced abortion. Complications following induced abortion are generally lower among adolescents than among older women, regardless of the gestation at which the abortion is performed or the method used (Strobino, Vol. II:Ch. 5; Cates et al., 1983). Two exceptions are cervical injury (Tyler, 1983; Hogue et al., 1982) and death-to-case rates from sepsis (Grimes et al., 1981), which are more frequent among teenagers. However, within gestation, teenagers have been shown to have the lowest overall death rates from legally induced abortion among all age groups (Cates et al., 1983). Strobino further concludes from her review of the research (Vol. II:Ch. 5) that if there is an increased risk of unfavorable outcomes (including spontaneous abortion) in pregnancies following an induced abortion, the risk is small and appears to be more significantly associated with differing characteristics of the women—for example, race, poverty status, poor health and health habits—than with abortion history (Hogue et al., 1982; Daling and Emanuel, 1977; Madore et al., 1981; Schoenbaum et al., 1980; Kline et al., 1978). Among adult women the odds of a second-trimester spontaneous abortion increased somewhat as the number of prior induced abortions increased (Levin et al., 1980), which suggests the need for additional research on the delayed effects of induced abortion on teenagers. However, Cates et al. (1983) concluded that, like any surgical procedure, induced abortion is not without risks. In general, though, these risks are not greater for teenagers than for adult women, and, in some cases, they are lower.

#### EDUCATIONAL ATTAINMENT

Throughout the past two decades, educational attainment has become more significant in determining a young person's life chances. One's education substantially affects one's income and occupational opportunities (Hofferth et al., 1978; McClendon, 1976). It also affects one's chances for employment (Furstenberg, 1976).

Hofferth (Vol. II:Ch. 6) highlights a number of studies that strongly support the conclusion that young women who give birth while they are in junior high school or high school complete on average fewer years of school, are less likely to earn a high school diploma, and are less likely to go on to college and graduate study than those who delay childbearing until their twenties (Mott and Marsiglio, 1985; Card and Wise, 1978; Furstenberg, 1976; Presser, 1976a; Trussell, 1976; Waite and Moore, 1978; Haggstrom et al., 1983). Later research that has controlled for socioeconomic background, academic ability, and motivational factors has also found that early childbearers are more likely to have reduced educational attainment than later childbearers (Card and Wise, 1978; Haggstrom et al., 1983; Moore and Hofferth, 1980; Hofferth and Moore, 1979; Moore et al., 1978; Waite and Moore, 1978). The younger the mother at the time of birth, the greater the educational decrement, although this effect is somewhat less significant for blacks than for whites (Waite and Moore, 1978). Teenage fathers are also negatively affected, but not to the same degree that teenage mothers are (Card and Wise, 1978).

As several researchers have found, the causal relationship between educational completion and age at first birth runs in both directions, particularly among older childbearers. That is, the older a young woman at first birth, the more education she is likely to receive (Rindfuss et al., 1980; Hofferth and Moore, 1979); the more years of schooling that a young woman has completed, the more likely she is to delay childbearing (Hofferth and Moore, 1979; Marini, 1984).

As Hofferth (Vol. II:Ch. 6) reports, recent research on the relationship between educational attainment and early childbearing has focused on the complex effects of dropping out of school. The clear conclusion of these studies is that young women who have a first birth while they are still under 18 are more likely to drop out of school than those who do not (Moore et al., 1978; Marini, 1984). While many young women drop out at the time they give birth, it appears that many others drop out during the year before the birth of their child. Although some are undoubtedly pregnant at the time, it also seems likely that many young women who drop out become pregnant within several months after leaving school (Moore et al., 1978).

Ironically, those who give birth at ages 16, 17, and 18 are at greater risk of not finishing high school than those who give birth at younger ages. Hofferth (Vol. II:Ch. 6) reports that teens who have a first birth at younger ages are more likely to stay in their parental home and therefore

to stay in school or return to school (Furstenberg and Crawford, 1978). In contrast, those who give birth at ages 16 to 18 are likely to make other adult transitions at the same time—for example, establishing independent living arrangements, getting a job, or getting married—all of which make it more difficult for a young woman to continue her education. In particular, teenagers who marry are at higher risk of dropping out of school, and those who both marry and bear a child have the highest probability of dropping out of school (Moore et al., 1978).

Do high school dropouts catch up? Hofferth (Vol. II:Ch. 6) suggests that the answer is generally no. Although many make progress, especially in their late twenties, teenage mothers typically do not catch up completely. However, the effects seem less pronounced for young black women than for their white counterparts. In large part, this probably reflects the fact that in black families and the black community in general, the necessary support mechanisms are better developed to help young unmarried women cope with early childbearing (Hill, 1977; Williams, 1977, as cited in Moore et al., 1986; Miller, 1983).

Differences in educational attainment between teenagers who give birth and those who do not are significant in the first several years following the birth of their child, but there is evidence that they diminish somewhat over time. Furstenberg and Brooks-Gunn (1985a) found in their 17-year follow-up of a sample of teenage mothers in Baltimore (mostly black) that of all educational attainment following the birth of a first child, more than half took place six or more years after that birth. More than half of the young women in this study reported at least one year of additional schooling after five years of motherhood, while a significant proportion went on to earn a high school diploma or equivalent, and many went on to postsecondary education. Although the results do not suggest that these adolescent mothers completely caught up with their classmates who did not give birth, they do point out that many teenage mothers who interrupt schooling to have a child do resume their educational careers later in life (Furstenberg and Brooks-Gunn, 1985a). Short-term (1 to 5 years following a first birth) and long-term (6 to 15 years following a first birth) educational outcomes may be very different for some proportion of early childbearers.

In addition, it seems likely that for more recent cohorts of adolescents, the difference in educational attainment between those who give birth while still of school age and those who do not has lessened (Mott and Maxwell, 1981). Until the mid-1970s, young pregnant women were

frequently prohibited from staying in school. Title IX of the Education Amendments of 1972 (implemented in 1975) prohibits publicly supported educational programs from discriminating on the basis of pregnancy status. As a result, school systems make a variety of arrangements for helping expectant mothers continue their education, either in regular classes or in alternative programs. However, as McCarthy and Radish (1982) point out, young women who do not give birth early also get more schooling. As a result, it seems unlikely that the gap will be diminished.

#### FAMILY STRUCTURE AND FAMILY SIZE

Early marriage is strongly associated with early childbearing. One-third of brides age 17 and younger are pregnant at marriage (Bureau of the Census, 1984a). Although the rate of nonmarital childbearing has increased significantly over the past two decades, approximately half of all adolescent mothers are married at the time they give birth (O'Connell and Rogers, 1984). Marriage to legitimate a birth is more common among whites than among blacks, and it is far more common among older teenagers (18- and 19-year-olds) than among younger ones (O'Connell and Rogers, 1984; McCarthy and Menken, 1979). More recent cohorts of teenagers are less likely to marry to legitimate a pregnancy than past cohorts were.

Unfortunately, the majority of adolescent marriages are highly unstable (Bumpass and Sweet, 1972; Card and Wise, 1978; Furstenberg, 1976; Glick and Norton, 1979). Furstenberg (1976) found among his Baltimore sample that more than half the marriages had dissolved by the time of the 5-year follow-up and, among those women who were still married, a substantial proportion reported severe marital problems. Those who were divorced or never married were generally disinclined to enter or reenter marriage (Furstenberg, 1976). At the 17-year follow-up, Furstenberg and Brooks-Gunn (1985a) found that, despite their initial intentions, less than one-quarter of their sample (then in their early thirties) had never married, and less than 10 percent had neither married nor entered a cohabitational arrangement. However, the relationships of the women who married or cohabited were not permanent. Approximately two-thirds of all first marriages were dissolved, as were many second marriages, and the dissolution of cohabitational arrangements was even greater (Furstenberg and Brooks-Gunn, 1985a). Thus, while early childbearing appears to accelerate the pace of marriage for some, it also appears to accelerate the pace of

separation and divorce. After 17 years, the early childbearers in the Baltimore study were less likely to be married than peers who delayed childbearing, and they were significantly less likely to have remained in their first marriage (Furstenberg and Brooks-Gunn, 1985a). Other researchers have found that remarriage is generally far less likely following marital disruption among blacks than among whites (Ross and Sawhill, 1975). Adolescent parenthood, especially among low-income blacks, has serious negative implications for long-term marital stability and ultimately for the economic well-being of a young mother and her children. Nevertheless, teenage mothers who marry before the birth of their child rather than afterward appear less likely to separate from their husbands in later years (McLaughlin et al., 1986). Among the small proportion of early childbearers who do enter stable marital relationships, economic outcomes are far more favorable than for those who do not marry and become single heads of household (Furstenberg and Brooks-Gunn, 1985a). In addition, infants born to teenage mothers who are married at the time of birth have more favorable outcomes (i.e., less likely to have low birthweight, more likely to breast-feed) than those of unmarried mothers.

Teenage childbearing is also strongly associated with higher levels of completed fertility, closer spacing of births, more nonmarital births, and higher proportions of unintended births (Trussell and Menken, 1978; Moore and Hofferth, 1978; Card and Wise, 1978). Moore and Hofferth (1978) found that women ages 35-52 who had their first child at age 15 or younger had three more children on average than women who delayed their first birth to age 24, after controlling for race, religion, education, and other fertility determinants. Similarly, Card and Wise (1978) found that, by age 29, women whose first birth occurred at age 18 or younger had 3.1 children on average, compared with 2.2 children for a matched sample of women who began childbearing in their early twenties.

Among recent cohorts, however, these effects seem to have diminished somewhat, particularly among blacks (Trussell and Menken, 1978; Millman and Hendershot, 1980). Furstenberg and Brooks-Gunn's (1985a) 17-year follow-up of their sample of early childbearers revealed that most women had fewer children than they had originally indicated they eventually wanted and fewer than they had indicated that they expected to eventually have when reinterviewed at the 5-year follow-up. Among this group of mainly inner-city black women, approximately 20 percent had one child, 40 percent had two children, 30 percent had three children, and about 8 percent had four or more children. More than 60 percent of all

additional births among these women occurred within five years after the first birth. Rather than rely on various methods of contraception, sterilization was the chosen means of fertility control for more than half (57 percent) of the women in the study (Furstenberg and Brooks-Gunn, 1985a). This follows the current U.S. pattern in which sterilization is the contraceptive method of more than half of couples with two or more children. Approximately half of women currently obtaining tubal sterilization are under 30 and 20 percent are under 25 (Centers for Disease Control, 1983).

Although the differences in levels of completed fertility between early and later childbearers is declining, women who have their first child as teenagers still tend to have larger families, by about one child on average. This difference has important implications for their economic well-being and that of their children, as well as for their prospects of welfare dependence.

#### WORK STATUS AND INCOME

In part because of their educational deficits and larger family size, adolescent mothers are less likely to find stable and remunerative employment than their peers who delay childbearing. Several researchers have found a significant difference in work status and income between early and late childbearers, which appears to be at least in part attributable to the timing of parenthood (Card and Wise, 1978; Hofferth and Moore, 1979; Trussell and Abowd, 1979). While differences in socioeconomic background and ability have some effect, they do not fully explain the differences in patterns of labor force participation and levels of earnings between early and later childbearers.

Hofferth et al. (1978) conclude that, since early childbearing affects educational attainment and family size, it indirectly affects work status and income. Because teenage mothers tend to have more children at closer intervals, they accumulate less work experience and have lower hourly wages, net of other factors. In addition, because they generally complete less schooling and consequently have lower-status occupations, they earn lower wages. Taken together, these facts suggest that an early birth has negative indirect effects on the labor market position of young mothers and contributes to their lack of satisfaction with their jobs (Card and Wise, 1978; Haggstrom and Morrison, 1979). However, these effects appear to be more significant for whites than for blacks, for two reasons. First, young black mothers do accumulate somewhat more work experi-

ence than their white counterparts, and, second, the difference in work experience between early and late childbearers is less significant for blacks than for whites (Koo and Bilsborrow, 1979).

The differences in work status between early and later childbearers vary over the family life cycle. Card and Wise (1978) report that although teenage mothers are less likely to be working 1 year and 5 years after high school, 11 years later (when they are in their twenties) they are more likely than later childbearers to be employed. These findings are supported by Furstenberg and Brooks-Gunn's (1985a) study as well. Although the employment disparities between the adolescent mothers in the Baltimore study sample and their classmates who had not given birth were great at the 5-year follow-up, the differences had diminished somewhat by the 17-year follow-up. Five years after birth, less than half the young mothers held jobs and were partially or wholly self-supporting, compared with 70 percent of their peers who delayed childbearing. Moreover, the jobs held by classmates were more skilled and better paid. Twelve years later, however, 67 percent of the teenage mothers were working—a figure that is roughly comparable to that of their peers, many of whom were then taking time out to raise children (Furstenberg and Brooks-Gunn, 1985a). Thus it appears that differences in work status between early and later childbearers decline over time. In fact, because of economic need, early childbearers may be more likely to be employed over the long term; however, there is evidence that differences in the types of jobs they hold are not diminished over time (Hofferth, Vol. II:Ch. 6).

Income differences also decline. In this regard, Trussell and Abowd (1979) found that delay of childbearing raises the "reservation wage," the wage that is sufficient to attract one into the labor force, particularly among white women. Many later childbearers, a greater proportion of whom are married, are likely to leave the labor force when they give birth, unless their jobs provide an income (and presumably a level of job satisfaction) that outweighs the attractions of full-time motherhood, especially if their husbands' employment provides a satisfactory level of economic security. In addition, Koo and Bilsborrow (1979) found that many later childbearers who continue to work or return to work are employed less than full-time. As a result, the differences in income earned by the women themselves, as well as the work status differences between early and later childbearers, are less significant in their late twenties and early thirties than they were in their early twenties, when other socioeconomic, ability, and motivational factors are taken into account.

Overall, the effects of an early birth on work status and income are

much greater for whites than for blacks. Hoffert (Vol. II:Ch. 6) offers several possible explanations. First, because teenage childbearing is more common in the black community, social institutions have devised mechanisms to help young women cope with the event. Second, social and economic opportunities for young black women have not developed over the past two decades to the extent that they have for young white women. As a result, the opportunity costs of early childbearing are not as great for blacks as for whites. Third, because the reservation wage is lower for blacks than for whites, they are attracted into paid employment by lower wages than are white mothers. Finally, because blacks tend to begin and end childbearing earlier, they are more likely to devote themselves to employment in their late twenties and thirties than many whites who delay childbearing.

While the popular image of severe and life-long social and economic disadvantage for adolescent mothers is exaggerated, women who begin childbearing as teenagers are nevertheless at greater disadvantage than those who delay childbearing. Because they are likely to complete less schooling and to have more children, their ability to obtain positions with higher wages is reduced, and their earnings usually must support a larger family. In addition, because those who begin childbearing at a younger age have fewer prospects of achieving a stable marital relationship, many more of these women are the only or the major source of economic support for their families. Although research has not addressed whether adolescent mothers are less likely to receive child support from absent fathers, few mothers receive a majority of their income from this source (Bureau of the Census, 1985c). Despite the fact that differences in work status and income between early and later childbearers diminish somewhat over time, women who enter parenthood as teenagers are at greater risk of living in poverty, both in the short and long term.

#### POVERTY AND FINANCIAL DEPENDENCE

Teenagers who become mothers are disproportionately poor and dependent on public assistance for their economic support (Moore and Burt, 1982; Furstenberg, 1976; Presser, 1975). Estimates of welfare expenditures to adolescent mothers in 1975 suggest that approximately 50-56 percent of the Aid to Families With Dependent Children (AFDC) budget in that year was directed to households in which the mother was

a teenager at the time her first child was born. These households accounted for approximately \$5 billion in AFDC expenditures; when food stamp benefits were also considered, the total approached \$6.5 billion (Moore, 1978; Moore et al., 1981). In addition, because AFDC recipients are also eligible for Medicaid benefits, the total rises by another \$2.1 billion (\$934 million for Medicaid services to the children of teenage mothers and \$1.2 billion for adolescent mothers themselves) when health care costs are added. In all, Moore et al. (1981) estimated that more than \$8.6 billion in public assistance through these three programs was provided to households in which the mother was an adolescent parent in 1975. A more recent estimate of 1985 outlays suggests that total welfare-related expenditures attributable to teenage childbearing has nearly doubled in the past 10 years, to \$16.6 billion: \$8.3 billion for AFDC, \$3.4 billion for food stamps, and \$4.9 billion for Medicaid (Burt, 1986). As with the earlier estimate, the 1985 figure is conservative, since it includes only sums expended in the three major programs.

Other researchers have found that not only are teenage mothers more likely than older childbearers to be receiving AFDC, but also the amounts of their grants are larger, primarily because of their larger average family size (Block and Dubin, 1981; Scheirer, 1981).

In part, teenage mothers are dependent on welfare because welfare use is more prevalent among those for whom the difficulties and expenses associated with arranging child care may seriously affect their ability and motivation to be self-supporting. Particularly among young mothers, blacks, unmarried mothers, and high school dropouts, child care constraints frequently interfere with employment (Presser, 1980). Women with little education and low incomes also face greater difficulties in finding jobs that pay well and that offer fringe benefits important to workers with children, for example, comprehensive health care coverage (Moore and Burt, 1982).

Despite the fact that teenage mothers are disproportionately represented in welfare programs, it appears that public assistance is not their preferred means of support (Furstenberg, 1976). Nor is welfare dependence continuous for the majority of young mothers. Furstenberg and Brooks-Gunn (1985a) found that among the women in their Baltimore sample, the probability of becoming a welfare recipient rose rapidly during the five years following the birth of a first child. After five years, however, very few teenage mothers went on welfare for the first time, and the probability of their going off welfare increased sharply. Al-

though some women ultimately received public assistance again during the 17-year study, most who went back on welfare went off again when circumstances permitted. Moreover, during the 5 years preceding the 17-year follow-up, two-thirds of the women in the sample did not receive any welfare assistance. Furstenberg and Brooks-Gunn (1985a) conclude that, although a small minority of women were consistently dependent on public support, chronic or near-chronic welfare dependence was the exception rather than the rule among the teenage mothers they studied.

These findings are supported by other researchers who found that teenagers who bear children enter the welfare system earlier in the family life cycle and leave it sooner than do women from similar socioeconomic backgrounds who delay childbearing until their twenties (Block and Dubin, 1981). In addition, however, early childbearers tend to enter and exit the welfare system earlier in the family life cycle because they rely on public support to complete their education and then enter the job market. McNarney et al. (1985) conclude that short-term public support for many teenage mothers may be critical to their eventual financial independence and success and that of their children. Nevertheless, this dependence imposes a considerable cost on taxpayers.

#### OUTCOMES FOR CHILDREN OF TEENAGE MOTHERS

In addition to the numerous health risks that the children of teenage mothers face, they are also at greater risk of lower intellectual and academic achievement, social behavior problems, and problems of self-control (Hofferth, Vol. II:Ch. 8). In addition, data suggest that they may be more likely to become adolescent parents themselves than are the children of older mothers.

Research on the relationship between early parenting and child development is relatively sparse. Yet the limited evidence indicates that the age of the mother at the birth of her child does affect the child's intelligence as measured on standardized tests (Broman, 1981; Maracek, 1979; Furstenberg, 1976; Belmont et al., 1981; Cohen et al., 1980; Levin, 1983; Moore, 1986; Davis and Grossbard-Schechtman, 1980). It also affects academic achievement, retention in grade, and other parental and teacher evaluations of school performance (Kinard and Reinherz, 1984; Moore, 1986; Vincenzi and Brewer, 1982; Maracek, 1979; Furstenberg and Brooks-Gunn, 1985a, 1985b; Card, 1978). Small but consistent

differences in cognitive functioning appear in the preschool years and continue into elementary school and beyond. These effects are consistent for both blacks and whites and for both boys and girls (although in some cases the effects on boys are greater) (Hofferth, Vol. II:Ch. 8). As Hofferth points out, however, the direct effects are small, while the indirect effects seem to be larger. The salient question is what factors account for these differences between the children of early and later childbearers.

Teenage mothers, as we have seen, tend to be poor and less well-educated, and their children are likely to grow up in disadvantaged neighborhoods, to attend low-quality schools, and experience high rates of family instability. Indirect effects on the cognitive development and performance of the children of adolescent mothers appear to operate through family structure (i.e., single parenthood), maternal education (i.e., mother's limited schooling), and larger family size. Among these, mother's education has been shown to be most significant. Children of adolescent mothers score consistently lower on IQ tests and on vocabulary and block design tests (Cohen et al., 1980; Levin, 1983; Davis and Grossbard-Schechtman, 1980). According to Davis and Grossbard-Schechtman, children's IQ scores decline by approximately one point for every year of schooling that their mother does not complete. Similarly, Kinard and Reinherz (1984) found that mother's education was the major factor affecting children's achievement scores, with substantial and consistent differences on almost every measure favoring children of more educated mothers. Moore (1986) reports that children born to mothers who had fallen behind or dropped out of school before their first pregnancy had considerably poorer cognitive performance than children born to mothers who were in school or on grade when they became pregnant or who continued school after their first child was born.

Furstenberg (1976) found that the children of the women in the Baltimore sample generally had average scores on an achievement and aptitude test when they were evaluated as four- and five-year-olds, and those who saw their fathers regularly and those living in two-parent families scored somewhat higher. However, by the time these children had reached adolescence (15 to 17 years old), the school achievement of those who were still in school (some had already dropped out) was "dismal." Half had repeated at least one grade, and a quarter had been retained at grade level more than one year (Furstenberg and Brooks-Gunn, 1985a). These findings were supported by Maracek (1979), who

also found that among the children of adolescent mothers, every additional year of mother's education reduced the likelihood that the child would be retained in grade by almost 50 percent. Similarly, Moore (1986) reports that the children of adolescent parents are more likely to be behind grade, more likely to be assessed as needing remedial help, and less likely to be doing advanced academic work.

As Hofferth (Vol. II:Ch. 8) points out, however, we know very little about how a mother's level of educational attainment improves the cognitive ability and performance of her child. Is it a reflection of ability, motivation, discipline, encouragement, and support, or all of these factors? Parents with limited education and more children are probably less capable of helping their children to stay in school. They may be less willing or able to reinforce their educational aims, and they may also have less ability to provide emotional and material support to help their children establish and further their educational goals (Furstenberg and Brooks-Gunn, 1985a). Yet the question of how parental education operates remains largely unanswered.

Effects of having a teenage parent on children's socioemotional development are sometimes present but generally less significant than those on cognitive development. Several studies show that the children of young mothers are at greater risk of social impairment (e.g., poor control of anger, feelings of inferiority, fearfulness, etc.) and mild behavior disorders (e.g., rebelliousness, aggressiveness, impulsiveness, etc.) (Maracek, 1979; Mednick and Baker, 1980; Furstenberg and Brooks-Gunn, 1985a). Moore (1986) reports that the sons of teenage mothers are more likely to be rated as impulsive and overactive. Furstenberg and Brooks-Gunn (1985a) found a relatively high incidence of school behavior problems (e.g., school suspension, running away, being stopped by the police, and having inflicted a serious injury on someone else) among the adolescent children of the teenage mothers in their study, although they did not control for relevant background factors such as socioeconomic status and family structure. In addition, they found that substance abuse (e.g., smoking, drinking, and drug use) as well as early sexual experience were prevalent among these children. One-quarter of the adolescent daughters in the sample had already had a pregnancy at the time of the 17-year follow-up. As with cognitive outcomes, Hofferth (Vol. II:Ch. 8) concludes from her review of the available research that most of the effect of having a teenage parent on children's socioemotional development is indirect and operates through unstable family

structure. Especially for teenage children, the lack of parental support that often results from marital instability may have some negative effects on socioemotional development. Additional research that controls for relevant background and mediating factors is needed.

Although the study of adolescent mothering styles and skills has been largely neglected until the past five years, recent work supports the conclusion that the effects of maternal age in this area are also largely indirect and operate through a young woman's education, family structure, support system, knowledge of childrearing, and childrearing experience (McAnarney et al., 1984). McAnarney et al. (1985) conclude that the prevailing assumption that teenage mothers are poor parents is too simplistic and is not supported by the research. Few differences have been found between adolescent and older mothers with the exception of vocalization, which may be linked to lower cognitive scores during preschool for the children of younger mothers (Field, 1981; Sandler et al., 1981). Educators and social workers expect a higher incidence of learning disabilities, delinquency, and abuse among the children of teenage mothers, but the existing record is incomplete and unclear. Thus, for example, when socioeconomic factors and family structure are controlled, young mothers do not appear more likely to abuse or neglect their children than other mothers (Sahler, 1980; Kinard and Klerman, 1980). Kinard and Klerman conclude that both adolescent births and reported cases of child abuse are more common among families with low socioeconomic status, and it is possible that poverty strongly affects both early pregnancy and child abuse. These issues require further study.

The available research suggests that having a teenage mother negatively affects a child's development, and the effects do not decrease over time. Also apparently significant is the risk of the children of adolescent parents' becoming adolescent parents themselves. In this regard, Moore (1986) reports that the children of white adolescent mothers are more likely than those of black adolescent mothers to accept early childbearing as a possibility for themselves and somewhat more likely to have started dating at a younger age. Studies show that the effects of having a teenage parent on children's development are mediated through a variety of other factors, including mother's education, family structure, family size, and poverty, the very factors that most strongly predict early sexual activity, ineffective contraceptive use, and early nonmarital childbearing.

However, the assumption that economic dependence and early non-

marital childbearing are perpetuated over generations is not supported by the available research. Indeed, one of the most striking results of the Furstenberg and Brooks-Gunn (1985a) 17-year follow-up of the Baltimore women and their children is the wide diversity of outcomes among both generations. Many of the teenage mothers appear to have found routes to social and economic recovery, and some of their adolescent children appear to be on the track toward productive adult lives. Nevertheless, a substantial proportion of the children of mothers in the study sample were not doing well at the 17-year follow-up. Moore (1986) reports similar heterogeneity among adolescent mothers whose children had reached their teenage years. Yet she also finds that the families of origin of adolescent parents were significantly more likely to have low incomes and to live in neighborhoods that they themselves describe as undesirable for their children. The cycle of school failure, frustration, and disinterest among the children of adolescent mothers is of greatest concern in this context, because we know that it is strongly associated with early sexual activity and pregnancy in girls and with antisocial behavior in boys. For both sexes it bodes ill for future educational attainment, marital stability, employment and income, and later socio-economic well-being.

#### CONCLUSION

The conclusion one must draw from the existing research on the consequences of early childbearing is that women who become parents as teenagers are at greater risk of social and economic disadvantage throughout their lives than those who delay childbearing until their twenties. They are less likely to complete their education, to be employed, to earn high wages, and to be happily married; and they are more likely to have larger families and to receive welfare. Despite their poor prospects, though, many young mothers do adapt to their circumstances over the long term and find routes to social and economic recovery. Although adolescent mothers overall do not do as well in later life as women who postpone parenthood, many manage to overcome the handicap of having a child in their teens (Furstenberg and Brooks-Gunn, 1985a). The undifferentiated stereotype of the ignorant teenage mother with hordes of children living on welfare not only underestimates a young woman's chances of recovery, but may also inhibit her opportunities. Researchers have learned a great deal in recent years about which

young mothers are at greatest risk of long-term disadvantage and why, and which can be assisted through various types of intervention. While questions remain to be answered, existing knowledge can be used to identify the strategies that are most likely to help young women in different social, economic, and cultural circumstances overcome the detrimental effects of an early first birth and to clarify when in the life span these approaches are most likely to be effective. In this regard, it seems important to keep in mind that not all young mothers follow the same recovery route, nor do they achieve educational, financial, and personal success on the same schedule, if at all.

It is not only teenage mothers who are at risk. Their children are more vulnerable to a number of health risks, including disease, physical disability, and infant death. Children of young mothers also face risks of cognitive deficits and socioemotional problems. Few of these problems are the direct result of their mother's age at first birth, however. Instead, available evidence suggests that they are mediated to some extent by the social, economic, and cultural conditions of the children's lives. Of special importance is their mother's education, family stability, and, perhaps to a lesser extent, family size. Knowledge about how these factors operate is incomplete, yet we do know they are strongly associated with the same circumstances, attitudes, and behaviors that frequently predict school failure, early sexual experience, ineffective contraceptive use, and thus adolescent pregnancy. Available evidence suggests that the children of teenage parents are especially prone to having children early in life themselves. The significant danger signals warrant further investigation and suggest directions for future intervention.

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## 6

### Preventive Interventions

In the past 15 years, there has been dramatic growth in the number and variety of interventions aimed at preventing teenage pregnancy and childbearing. Many programs have been promoted and supported by the federal government, others have been initiated by states and local communities, and still others have developed as a result of investments by private foundations and philanthropic groups. Virtually all represent strong underlying assumptions concerning the nature of the problem and what constitute the most appropriate and effective approaches to solving it.

Preventive interventions are programs aimed at helping young women avoid unintended pregnancy and childbearing. They are of three general types (Dryfoos, 1983):

- those that impart knowledge or influence attitudes,
- those that provide access to contraception,
- those that enhance life options.

The first two categories represent traditional approaches to pregnancy prevention through increased knowledge and access to services; the majority of programs are of these types. They are aimed at enhancing young people's ability to avoid early childbearing, and they are intended to directly influence the process of decision making by adolescent girls (and boys) at the time of choice (e.g., initiation of sexual intercourse, contraceptive use, pregnancy resolution). Preventive interventions in the third category are intended to influence sexual decision making indirectly by developing and strengthening adolescents' "motivation to avoid early childbearing" (Dryfoos, 1984c). They are based on the assumption that

broadening opportunities, especially through educational enhancement, will provide meaningful alternatives to childbearing. In addition, efforts to coordinate and strengthen prevention strategies at the community level have been launched by several coalitions and interest groups.

Although many preventive interventions have been developed and implemented, few have been rigorously evaluated. There are several reasons for this lack of systematic information on effects and effectiveness. First, many programs have failed to clearly define objectives as a basis for measuring outcomes; they have also frequently failed to distinguish direct and indirect outcomes. Reducing the number of early unintended pregnancies, for example, is not an explicit objective of many preventive programs other than family planning services, even though it may be an important secondary outcome. Programs designed to increase knowledge and influence attitudes, as well as those intended to enhance life options, are frequently unable to show long-term changes in pregnancy rates. They may, however, significantly affect other factors, such as school achievement and peer influences, which have been shown to be related to adolescent sexual behavior.

Second, unlike a reduction in the number of births to teenagers, a reduction in the number of pregnancies is often difficult to measure. Because many pregnancies are terminated by abortion and some end in miscarriage, conceptions are frequently not reported.

Third, reductions in the number of pregnancies may reflect a variety of factors other than or in addition to program effects, for example, changes in the age and racial characteristics of the local target population; economic changes, such as the opening or closing of a plant that may alter local employment and income opportunities; changes in local school policies and school populations, such as those caused by busing, school closings, and redistricting; and the availability of other community health, social service, and income programs. All these kinds of factors can confound the results of evaluation in ways that are difficult to detect.

Finally, in addition to methodological impediments to accurate evaluation of programs, there are several practical problems. Evaluation research is expensive (often as costly as the program itself), and project grants and contracts have all too often failed to include funds earmarked for outcome measurement. Service providers typically lack the necessary research training and technical skills to mount a sophisticated evaluation, and the time to conduct it appropriately. Moreover, programs are often funded for 3- to 5-year periods, while the measurement of effects and effectiveness should

continue over longer periods to generate useful information concerning outcomes.

In short, knowledge about preventive interventions is incomplete, and assessments frequently have not linked direct and indirect results. Yet accumulated program experience, along with a growing body of evaluation data, provides some insight into how various approaches work, for whom, under what circumstances, at what costs, and with what intended and unintended consequences.

The remaining sections of this chapter summarize what is known about various preventive interventions of the three specified types.

#### PROGRAMS THAT IMPART KNOWLEDGE AND/OR INFLUENCE ATTITUDES

A variety of programs has been developed to impart knowledge about sexual behavior, human relationships, reproduction, and contraception and to influence teenagers' attitudes about sexuality and fertility. These have included sex education and family life education courses, assertiveness and decision-making training, programs to encourage family communication, teenage theatre projects, and popular media approaches. These programs are provided by an array of community institutions, including schools, churches, youth service agencies, and public health agencies. In some cases programs have been developed and implemented as discrete interventions; in other cases they have integrated more than one approach.

##### *Sex Education and Family Life Education*

Sex education (i.e., the communication of information concerning human reproduction and family relationships), once regarded as the responsibility of parents and guardians, has to some extent become an accepted part of public education. Despite occasional conflicts that still arise at the local level, a substantial majority of the American public agrees that children should know about the reproductive process in order to develop the capability to make informed decisions about their own sexual behavior. Moreover, public opinion polls indicate that most adults—parents and nonparents alike—favor sex education in schools (Gallup, 1978, 1980; NBC News, 1982; Smith, 1980). Not surprisingly, adolescents also express strong support for sex education programs (Norman

and Harris, 1981). This broad public support has become manifest in the political process as well. Over the past decade, state guidelines for sex education have become progressively more supportive. By 1981, only 7 of the 50 states discouraged and only 1 state prohibited instruction on specific topics (Kirby and Scales, 1981). When conflict does arise, in general it is no longer over whether schools should play a role in sex education, but rather over the inclusion of specific controversial topics, such as contraception, abortion, or homosexuality (Hottois and Milner, 1975).

As a result, sex education in schools is burgeoning. A 1982 national survey of 179 school districts in large cities, jointly conducted by the Urban Institute and the National Association of State Boards of Education, found that three-quarters of school districts provided some sex education in their high schools and junior high schools and two-thirds provided it in their elementary schools (Sonnenstein and Pittman, 1982). These reports are consistent with surveys of individual adolescents, three-quarters of whom report having had some sex education before leaving school (Zelnik and Kim, 1982).

While schools across the country demonstrate strong agreement on the goals of sex education, they differ somewhat in the content and comprehensiveness of their programs. One study reports that 94 percent of school districts agree that a major goal is to promote rational and informed decision making about sexuality; 77 percent agree that a goal is to increase a student's knowledge of reproduction; 25 percent report that a goal is to reduce the sexual activity of teenagers; and 21 percent say that a goal is to reduce teenage childbearing (Alan Guttmacher Institute, 1981, as referenced in Hofferth, Vol. II:Ch. 9).

Most schools offer short programs, 10 hours or less, that tend to focus on the basics of anatomy, human reproduction, and physical and psychological changes during puberty; they are often integrated with other courses, such as health or physical education. Very few schools offer comprehensive programs of more than 40 hours, and, even in schools that do offer comprehensive programs, not all students take the courses (Sonnenstein and Pittman, 1982). Kirby (1984) estimates that less than 10 percent of all students take comprehensive sex education courses.

Although to date there has been no systematic review of elementary school curricula, Kirby (1984) reports that very few schools include sex education in the early grades. Those that do generally focus on correct names for body parts, reproduction in animals, family roles and responsibilities, and basic social skills. In the fifth and sixth grades, many schools

do provide sessions on the physical and emotional changes that take place during puberty, but few cover social interaction such as dating and intercourse (Kirby, 1984). In junior high schools, many schools cover anatomy, the physical and psychological changes of puberty, reproduction, dating, responsibilities in interpersonal relations, and sexually transmitted diseases. A smaller proportion teach about contraceptive methods. High school programs typically include a wider variety of topics, including teenage sexuality, pregnancy, and childbirth, as well as those taught at the junior high school level (Orr, 1982). About three-quarters of the separate courses at the high school level cover family planning, contraceptive methods, and abortion. About half include masturbation and homosexuality. Very few programs include information on sexual techniques (Kirby, 1984). In general, the more comprehensive the program, the wider the variety of topics covered and the greater the depth of coverage of basic topics.

Instruction in values as a part of sex education has been controversial. Some educators have advocated a value-free approach in order to avoid offending individuals and families with different orientations and to encourage teenagers to make decisions about sexual matters in light of their own values and beliefs. More recently, however, there has been a trend toward teaching what are regarded as basic universal values—for example, "All people should be treated with respect and dignity"; "Individuals should carefully consider the consequences of their actions for themselves, others, and for society" (Kirby, 1984). Comprehensive programs typically devote more time to clarifying values and increasing decision making and communication skills than shorter programs do.

In addition to what is taught in schools, other community organizations have developed and implemented programs: family planning agencies such as Planned Parenthood, churches, and other youth-serving organizations such as the YWCA, Girls' Clubs, Boys' Clubs, Scouts, and the Salvation Army. Both ideologically liberal and conservative organizations now offer programs that reflect their particular values on issues of human sexuality.

Among both school-based and community-based programs there is evidence of increasing efforts to involve parents, on the assumption that improved parent-child communication on issues of sexual behavior, contraception, abortion, marriage, and childbearing may help teenagers make more rational decisions. Similarly, a few programs have begun to use peer counseling approaches—that is, to train selected young people to talk

with peers and serve as information resources—on the assumption that teenagers may find it less embarrassing to discuss these matters among themselves and that they are likely to listen to and follow the example of other young people whom they admire and respect. Evidence of the effectiveness of these approaches is limited. Kirby (1984) found that among young children, parent-child programs improved both children's and parents' perceptions of children's comfort in talking about sex and birth control in the short run, although their perceptions were not significantly improved in the long run. Among older children the program had fewer positive effects, but it still appears to have increased somewhat the comfort and frequency of parent-child conversations about sexuality. Peer approaches have not been carefully evaluated; however, Talbot et al. (1982) examined a broad range of peer advocate programs and found that they seemed to have a large effect on peer participants: they appeared to raise consciousness among those trained as peer educators, and these young people benefited from their responsibility to instruct and counsel others. The effect of these programs in actually reaching peers, especially males, however, seems questionable (Talbot et al., 1982; Dryfoos, 1985).

More recently, many schools and community organizations are teaching about sexuality in the broader context of family life education. While family life education varies substantially in its content and focus, typically it includes attention to (1) the roles and responsibilities of families; (2) social problems in families, such as child abuse and sexual abuse, divorce, drug and alcohol use, and teenage pregnancy; (3) social and personal interaction with parents, peers, the opposite sex, and persons who are racially and culturally different; (4) the life course, including important events and transitions from birth to death; (5) family formation, including marriage, childbearing, and career and financial planning; (6) body structure, functioning, hygiene, and disease; and (7) sexuality. In addition, family life education courses tend to emphasize values and attitudes (Muraskin and Jargowsky, 1985).

Several recent studies of sex education and family life education programs have shown them to be effective at increasing students' knowledge and understanding of these subjects (Kirby, 1984; Eisen et al., 1985; Finkel and Finkel, 1984). Kirby (1984) found that younger students showed greater knowledge gains than older students, although this may simply reflect the fact that they had more to learn. This study also found that longer, more comprehensive courses did not appear to have a significantly greater impact on knowledge than did shorter courses.

There is some evidence that sex education may influence attitudes, but as Hofferth (Vol. II:Ch. 9) points out, research to date has documented only limited effects. Although it appears to make students more tolerant of others' attitudes and behavior, it has not been found to alter individuals' attitudes and beliefs about nonmarital sexual activity, birth control, gender roles, sexuality in life, and the importance of family.

Despite the fact that less than one-quarter of school districts cite fertility control as a program goal, there has been substantial public interest in how sex education affects behavior. Many critics have expressed concern that teaching sex education promotes early or more frequent sexual activity among teenagers. Others have worried that it may not be effective enough in promoting responsible contraceptive practice among sexually active young people (Zelnik and Kim, 1982; Kirby, 1984; Cooper, 1983).

Available studies have found no association between the probability of initiating sexual activity and having had sex education (Zelnik and Kim, 1982; Kirby, 1984; Furstenberg et al., 1985a). Zelnik and Kim (1982) found that among teenagers who were already sexually active, those who reported receiving some sex education were somewhat more likely to use contraception and somewhat less likely to become pregnant. As Hofferth (Vol. II:Ch. 9) points out, however, these data are based on survey responses with only a limited number of questions from which to infer the relationship between sex education and sexual decision making. Thus, while the results are useful, they are not definitive. In contrast, in the programs he studied Kirby (1984) found no effects on contraceptive use (frequency of either intercourse without contraception or effective use of contraception) or on pregnancies. Again, however, some caution is required in generalizing from these results. Programs included for assessment in this study were not randomly selected but instead represented the range of variation in approaches and providers. Preference was given to those considered "potentially effective." Opportunities for following participants long enough to detect change in pregnancy rates was seldom possible. Accordingly, as Hofferth (Vol. II:Ch. 9) concludes, although helpful, the existing evaluation research on sex education is not sufficient to judge with absolute certainty the effects and effectiveness of these programs.

Complete and accurate cost data for sex and family life education programs are not available. Yet, as Dryfoos (1984c) reports, they are low relative to the costs of many other prevention programs, and dramatically lower than the costs of programs to support adolescent mothers and

their children. A recent study of the costs of prevention services in Illinois reported the average cost per student at \$10 per year (Reis, 1984).

#### *Assertiveness and Decision-Making Training*

A second intervention intended to impart knowledge and change attitudes about sexual behavior is assertiveness and decision-making training. Several programs of this type have been developed in recent years, usually as an adjunct to sex education, not an alternative. In some cases the approaches embodied in these programs have been included as components of comprehensive sex education programs (Kirby, 1984). Typically, their goal is to teach problem-solving skills, decision-making skills, and interpersonal communication skills in order to help young people employ knowledge about reproduction and contraception in developing and implementing personal approaches to sexual activity. These skills are taught through a variety of techniques that includes modeling, role playing, and rehearsal. Some programs take no explicit value position on sexual behavior; instead they encourage each participant to develop his or her own objectives and carry them out (Schinke and Gilchrist, 1984; Schinke et al., 1981). Others promote sexual abstinence by counseling adolescent girls and boys on how to resist pressures to become sexually active before they are ready for such involvement. Many projects of this type employ peer counselors.

Schinke et al. (1981) provide evaluation data for a small number of subjects who participated in the Life Skills Counseling program in Seattle, Wash. The results show that the young people who took part in the course had better problem-solving and communication skills and more knowledge of reproduction and birth control than those who did not. They also had more favorable attitudes toward contraception, more diligent contraceptive practice, greater likelihood of contraceptive use at last intercourse, and greater reliance on more effective methods than did subjects in the control group. As Hofferth (Vol. II:Ch. 9) notes, unfortunately no information was reported on sexual activity. In addition, while encouraging, these findings are based on a very small and probably self-selected group of participants. The approach would have to be tested on larger and more representative populations before its effectiveness could be projected.

The Postponing Sexual Involvement program in the Atlanta, Ga.,

public schools is aimed primarily at teenagers under age 16. Its purpose is to help young people delay the initiation of sexual activity until they are ready for such involvement. Originally designed as an optional series of four 90-minute workshops for students and their parents, it is now being implemented as a mandatory six-week course for all eighth graders. Peer counselors are being used in some discussion groups. No evaluation data are currently available. As with the Seattle program, preliminary indications are that this may be a promising approach, especially for girls; however, evidence to support broad claims of effectiveness does not currently exist. No cost data are available for programs of this type.

#### *Family Communication Programs*

Several programs are currently under way with support from the federal Office of Adolescent Pregnancy Programs (OAPP) to prevent or delay early sexual activity among young teens by improving parent-child communication. They are intended to develop and test approaches to "enable parents to better communicate their values and attitudes regarding sexual behavior to their children and to help their adolescents develop positive self-concepts and improved decision-making skills to enable them to exercise greater responsibility over their sexual behavior" (Montana State University as quoted in Hofferth, Vol. II:Ch. 9). Many are based on fundamental communications techniques—for example, taking time to establish relationships, recognizing natural communication barriers, focusing on the adolescent's concerns and interests, and getting parents to share their own thoughts and feelings. The majority of these projects have just begun and evaluation results are not yet available. Nevertheless, as Hofferth (Vol. II:Ch. 9) concludes from a review of their evaluation plans, it seems unlikely that they will provide much evidence of effectiveness in preventing unintended pregnancies. Although most of the evaluations will measure effects on parent-child communication and related values and attitudes, few will actually measure impact on sexual activity among adolescent participants.

Another program of this type, the Family Communication Program implemented in San Francisco and Fresno, Calif., during 1981 and 1982, was aimed at increasing the frequency and improving the quality of parent-child communication about sexuality and thereby ultimately reducing unintended pregnancies. Unlike the OAPP projects, this program made no attempt to specify the content of parent-child communi-

cations. Instead it mobilized a variety of community groups to work with parents and teenagers and developed a media campaign using radio and television advertisements as well as publicity and printed materials. An evaluation of the program found that it increased the number of parents who reported that they "use every opportunity" to teach their children about sex and that these parents initiated discussions of sexuality more often than their children. The evaluation also showed that television was more effective than other media forms in reaching the public (Public Response Associates, 1982).

In sum, research on the effectiveness of family communication approaches has shown that such programs or program components (e.g., within broader family life education programs) can be effective in the short run at increasing parent-child discussions of sexual topics. But there is no direct evidence of how long-lasting these gains are, nor of the effectiveness of these programs in reducing the incidence of unintended pregnancy. Data on program costs are not available. Moreover, as discussed in Chapter 4, support for the hypothesis that such communication actually discourages early sexual activity is weak, but there is some evidence that mother-daughter communications may encourage contraceptive use (Furstenberg, 1976; Flaherty and Maracek, 1982; Fox, 1980, 1981).

### *Teenage Theatre*

In recent years, numerous community organizations have initiated theatre projects in which brief skits portraying the negative consequences of early childbearing are presented. Generally the projects involve teenagers themselves in preparing the scripts, staging the productions, and acting the parts. Some have involved live stage productions in schools and community organizations; others have involved radio and television spots accompanied by information concerning local family planning, maternal and child health, or other relevant health and social services. Based on the assumption that peers can significantly influence teenagers' attitudes and behavior, teenage theatre projects have sought to raise consciousness about sexual activity, pregnancy, and childbearing among adolescents and to provide outreach for local service agencies and organizations.

One particularly interesting example of this type of project is a 30-episode soap opera produced by the Tacoma-Pierce County, Wash.,

Health Department that was presented in 60-second spots on a local rock radio station. The soap opera, called "General High School," portrayed a typical sequence of circumstances requiring social decision-making skills by teenage boys and girls and then played out the consequences of the characters' decisions concerning their sexual and fertility behavior (Dryfoos, 1984c).

No evaluation data are available to indicate the effectiveness of such projects in increasing teenagers' awareness and understanding of the issues associated with early sexual activity, pregnancy, and childbearing or in changing their attitudes or behavior. Nevertheless, they have increasingly attracted the interest and attention of youth leaders and health and social service providers.

### *Media Approaches*

A growing number of professionals, service providers, and concerned advocacy groups have begun to experiment with media initiatives to raise consciousness about the issues of adolescent pregnancy and childbearing and to provide outreach to teenagers in need of support and services. These have taken the form of public service announcements on radio and television as well as organized efforts to influence programming content on afternoon and evening television.

In this regard, the Center for Population Options (CPO) has initiated a Los Angeles-based media project intended to serve as a factual resource for television programmers and to encourage more responsible presentation of sexual content. In particular, the project has been concerned with the portrayal of male-female relationships and nonmarital sexual activity, as well as the lack of attention to pregnancy prevention and responsible contraceptive use. The project has not been formally evaluated, but CPO staff report that TV executives acknowledge the power of ratings in choosing programming content. While there is no general guide for the treatment of sexuality, network executives consistently avoid subjects, such as contraception and abortion, that are not considered "entertaining" and that seem likely to offend some significant proportion of viewers. The notable exceptions are several investigative news reports, talk shows, and call-in shows that have begun to address these topics in a more candid manner. While this kind of programming has helped create a growing awareness of the issues of early sexuality and fertility, it has focused on problem behavior, for example, sexually transmitted disease

(unpublished CPO memorandum, April 23, 1985). In short, although media project staff report that television programmers sometimes call to check the accuracy of some material, they have been slow to change their programming approach to sexuality issues.

Public service announcements represent another avenue for using radio and television to raise consciousness about adolescent pregnancy and childbearing and for reaching out to teenagers in need of health and social services, especially family planning services. Although the panel discovered several projects that had prepared and distributed public service announcements primarily to radio stations, the number was remarkably few. None has been carefully evaluated, although the Center for Population Options initiated one project in 1982-1983 that included an evaluation design: the Adolescent Media Project was intended to determine the relative effectiveness of reaching Washington, D.C., youth with sexuality and family planning information through public service announcements, bus cards, and handout fliers. Each advertised a CPO telephone hot line for teenagers to call for information, counseling, or referrals to area family planning clinics. Three types of public service announcements were prepared and distributed to local youth-oriented radio stations, including (1) tapes featuring prominent rock and athletic stars promoting responsible sexual behavior among young people and citing the hot line telephone number; (2) "live copy," to be read on the air by radio staff, featuring commonly held "myths" about sexuality and fertility and urging listeners to call the hot line for additional information; and (3) live copy that was less explicit in its language about sexuality and contraception and conveyed the message that abstinence is acceptable, urging listeners to call the hot line for additional information.

The Adolescent Media Project did not produce scientific evidence, but it did provide several interesting insights. First, many stations were unwilling to play the tapes, preferring live copy for their disc jockey to read. Second, station public service directors were frequently unwilling to air the messages (live or recorded) during prime listening hours. Third, station public service directors were most receptive to public service announcements that addressed the issues of adolescent sexuality and fertility much less explicitly. Overall, the radio public service messages were more frequently cited as the source of referral to the hot line than either the bus cards or the handouts, suggesting the potential effectiveness of such media campaigns, if they are able to present their

content so that it appeals to teenagers but does not offend radio executives.

A third media approach to increasing adolescent awareness of sexual responsibility and the use of contraception is contraceptive advertising. As discussed in Chapter 3, television networks and radio stations in the United States have been reluctant to advertise nonprescription contraceptive methods for fear of offending some of their audience. Yet the experience in Europe offers some interesting points of comparison in this regard. Alan Guttmacher Institute researchers report that in the Netherlands and Sweden, where nonprescription methods are advertised openly on television and in the popular media, teenagers, when questioned, demonstrate a greater awareness of alternative means of birth control. Although there is no scientific evidence that contraceptive advertising has actually increased contraceptive use among teenagers in these countries, the researchers found that adolescents believed these methods were easily accessible to them (Alan Guttmacher Institute, in press).

Media approaches, especially through public service announcements, seem to be relatively undeveloped and potentially effective information and outreach tools. Similarly, contraceptive advertising on television and radio may be a useful means of raising teenagers' awareness of the need for contraception and of making them feel that contraceptive methods are easily accessible. However, evaluation of these types of intervention is problematic, since it is difficult to determine what proportion of the target youth population is actually reached by such messages.

#### PROGRAMS THAT PROVIDE ACCESS TO CONTRACEPTION

Family planning services include a variety of health, educational, and counseling services related to birth control, including contraceptive services, pregnancy testing and counseling, and information and referral. Family planning services are available to teenagers from organized health service providers, such as public health departments, local hospital outpatient clinics, school-based clinics, and private, freestanding clinic facilities, as well as from private physicians. Some family planning service providers offer a full range of reproductive health services, including testing and treatment for sexually transmitted diseases, obstetrics, abortion, and sterilization. However, most refer obstetrical, abortion, or sterilization patients to specialized hospital and clinic facilities or to private physicians.

*Contraceptive Services*

Oral contraceptives, diaphragms, and intrauterine devices (IUDs, rarely used by teenagers) must be obtained through a physician in private practice or in family planning or other health care clinics. Condoms and spermicides can be purchased at pharmacies, and, in some areas, other types of stores. In 1982, 73 percent of teenage women using contraceptives relied on the pill, an IUD, or a diaphragm; of these, 90 percent used the pill (Bachrach, 1984). Of those teens who had used any family planning services, 45 percent had last used a private physician, 49 percent a clinic, and 6 percent a counselor. Teenagers' first source of contraceptive services was slightly more likely to have been a clinic (53 percent) than a private physician (41 percent) (Pratt and Hendershot, 1984).

Black teens are more likely to rely on a clinic as their first source of prescription contraception than to visit a private physician (72 versus 28 percent), while white teenagers rely almost equally on both sources (48 versus 52 percent) (Zelnik et al., 1984). In 1983, there were 5,200 family planning clinics in the United States (Table 6-1). All but 5 percent of sexually active adolescents lived in a county with at least one clinic, although 14 percent in nonmetropolitan counties had no clinic nearby (Table 6-2). In 1983, 5 million patients were served in these clinics; about one-third of them (1.6 million) were under age 20. Of these teenage clinic patients, 57 percent were ages 18-19 and 43 percent were under age 18 (Table 6-3).

TABLE 6-1 Number and Percent Distribution of Family Planning Clinic Services in the United States, 1983

|                                     | Total          | Hospital    | Health Department | Planned Parenthood | Other         |
|-------------------------------------|----------------|-------------|-------------------|--------------------|---------------|
| Agencies                            | 2,462<br>(100) | 275<br>(11) | 1,419<br>(58)     | 182<br>(7)         | 586<br>(24)   |
| Clinic sites                        | 5,174<br>(100) | 377<br>(7)  | 2,928<br>(57)     | 698<br>(13)        | 1,171<br>(23) |
| Patients (thousands)                | 4,966<br>(100) | 551<br>(11) | 1,974<br>(40)     | 1,388<br>(28)      | 1,053<br>(21) |
| Average number of patients per site | 960            | 1,462       | 674               | 1,989              | 899           |

SOURCE: A. Torres and J.D. Forrest, 1985, "Family Planning Clinic Services in the United States, 1983," *Family Planning Perspectives* 17(1):32, January/February. Reprinted by permission.

TABLE 6-2 Teenagers and U.S. Counties Without Family Planning Clinics, 1983

|  | Total       | Metro     | Nonmetro    |
|--|-------------|-----------|-------------|
| Number of counties with no provider and as percentage of all U.S. counties   | 757<br>(24) | 57<br>(8) | 700<br>(29) |
| Women under age 20 at risk of unintended pregnancy (thousands) and as percentage of all women under age 20 at risk | 249<br>(5)  | 79<br>(2) | 171<br>(14) |

SOURCE: A. Torres and J.D. Forrest, 1985, "Family Planning Clinic Services in the United States, 1983," *Family Planning Perspectives* 17(1):31, January/February. Reprinted by permission.

Public health departments served 40 percent of all patients, Planned Parenthood clinics served 28 percent, and hospital clinics served 11 percent; clinics run by a variety of other community-based organizations served 21 percent (e.g., neighborhood health centers, women's health centers, community action groups, etc.) (Table 6-1).

The core of services provided to teenagers at an initial visit to a family planning clinic includes: information concerning the range of contraceptive methods, their use, effectiveness, and potential risks; counseling in the choice of an appropriate method; medical assessment involving a pelvic exam, breast exam, blood pressure check, blood test, and a Pap smear. About two-thirds of all first visits include a pregnancy test and urinalysis to test for possible contraindications to the use of some contraceptive method. In addition, about two-thirds of all first visits include testing for sexually transmitted disease (Torres and Forrest, 1985). Although many clinics have made attempts to reach and serve young men as well, they have generally had little success. Family planning clinics tend to be female-oriented in their approach and in the primary health and social services they offer, and therefore are rarely visited by young men unless they are accompanying a female partner.

Family planning clinics are generally more willing to provide contraceptive services to unmarried adolescents under age 18 without parental consent or notification than are private physicians. Among organized providers, only 1 percent of Planned Parenthood affiliates have consent or notification requirements, while 10 percent of public health departments and other providers and 19 percent of hospitals require that parents are either informed or give permission for minors to receive services. A somewhat larger proportion of family planning agencies have

TABLE 6-3 Number of Patients Under Age 20 Served by Family Planning Providers, 1969-1983, in thousands

| Year* | Patients Under Age 20 | Patients Ages 18-19 | Patients Under Age 18 |
|-------|-----------------------|---------------------|-----------------------|
| 1969  | 214<br>(20)           | N/A<br>—            | N/A<br>—              |
| 1970  | 300<br>(21)           | N/A<br>—            | N/A<br>—              |
| 1971  | 460<br>(24)           | N/A<br>—            | N/A<br>—              |
| 1972  | 691<br>(27)           | 460<br>(18)         | 231<br>(9)            |
| 1973  | 855<br>(28)           | 553<br>(18)         | 302<br>(10)           |
| 1974  | 945<br>(29)           | 581<br>(18)         | 358<br>(11)           |
| 1975  | 1,175<br>(30)         | 725<br>(18)         | 450<br>(12)           |
| 1976  | 1,237<br>(30)         | 734<br>(18)         | 503<br>(12)           |
| 1977  | 1,303<br>(31)         | 747<br>(18)         | 556<br>(13)           |
| 1978  | 1,451<br>(32)         | 804<br>(18)         | 647<br>(14)           |
| 1979  | 1,478<br>(33)         | 810<br>(18)         | 668<br>(15)           |
| 1980  | 1,532<br>(33)         | 850<br>(18)         | 682<br>(15)           |
| 1981  | 1,508<br>(33)         | 823<br>(18)         | 685<br>(15)           |
| 1982  | N/A                   | N/A                 | N/A                   |
| 1983  | 1,568<br>(32)         | 895<br>(18)         | 673<br>(14)           |

NOTE: Numbers in parentheses indicate percentage of all patients.

\*Data provided are for fiscal years through 1974, and for calendar years thereafter.

SOURCE: Alan Guttmacher Institute, 1984, *Organized Family Planning Services in the United States, 1981-1983*, New York, AGI. Reprinted by permission.

parental consent or notification requirements for teenagers under 15 (Torres et al., 1980).

Data from a national sample of private physicians show that 86 percent of obstetrician-gynecologists, general practitioners, and pediatricians are willing to provide contraceptives to adolescent women. However, only

59 percent indicated a willingness to serve unmarried minors without parental consent. Obstetrician-gynecologists are more likely to serve teenagers than the other physician specialists and are likely to have fewer policy restrictions. Pediatricians were found least willing to serve teenage family planning patients and were most likely to refer them to other sources of care (Orr, 1984b; Orr and Forrest, 1985). Physicians' willingness to serve unmarried minors without parental consent is somewhat related to state policies. In 29 states and the District of Columbia, minors are specifically authorized to give their own consent for family planning services.

In the other 21 states, either there are no such laws or the laws are ambiguous. Physicians in states that do not have explicit consent laws for minors were found significantly less likely to serve unmarried teenagers on their own authority (Orr, 1984b). Thus, in practice, young teenagers have less access to contraceptive services through private physicians than through clinics.

Researchers at the Alan Guttmacher Institute estimated that in 1981 more than 5 million young women ages 15-19 were at risk of an unintended pregnancy; 57 percent of them received family planning services during that year—approximately 30 percent from organized programs and 21 percent from private physicians (Torres and Forrest, 1985). Family planning agencies offer a variety of services in addition to contraceptive counseling and service (Table 6-4). Almost all offer pregnancy testing and counseling and testing for sexually transmitted disease. Between 40 and 50 percent provide prenatal care, special training for staff working with teenagers, teen outreach, and programs for parents of teenagers and for teenage mothers. Only 20 percent have programs for boys, however, and only 1 percent of the caseload is male.

Family planning clinic patients are predominately poor, reflecting the intent of these programs, most of which receive Title X funding, to make services available to disadvantaged women. In 1983, 83 percent of patients reported incomes below 150 percent of poverty and 13 percent were receiving public assistance (Torres and Forrest, 1985). The number of adolescents using family planning clinics increased dramatically between the program's beginning in 1969 and 1983—from 214,000 to 1.6 million. The proportion of teenage clinic patients increased quickly from 20 percent in 1969 to 27 percent in 1972, 30 percent in 1975, and 33 percent in 1979; subsequently, it has been stable at 32-33 percent. Patients under age 18 accounted for nearly all of the increase—from 9

TABLE 6-4 Services Provided by Family Planning Agencies, 1983

| Service or Program                           | Percentage |
|--|------------|
| Pregnancy                                    |            |
| Testing                                      | 99         |
| Counseling                                   | 92         |
| Sexually Transmitted Diseases                |            |
| Testing                                      | 95         |
| Treatment                                    | 71         |
| Infertility                                  |            |
| Counseling                                   | 60         |
| Treatment                                    | 19         |
| Prenatal care                                | 46         |
| Genetic counseling                           | 32         |
| Community education                          | 79         |
| Special staff training for helping teenagers | 47         |
| Teen outreach                                | 44         |
| Programs for parents                         | 50         |
| Programs for adolescent mothers              | 39         |
| Programs for young men                       | 20         |

SOURCE: A. Torres, 1984, "The Effects of Federal Funding Cuts on Family Planning Services, 1980-1983," *Family Planning Perspectives* 16(3):137, May/June. Reprinted by permission.

percent in 1972 to 15 percent in 1979. The proportion of 18- to 19-year-old clinic patients remained constant at 18 percent (Torres and Forrest, 1983). Data concerning changes in the number of adolescents obtaining contraceptive services from private physicians are not available. Data from the National Surveys of Young Women show increased use of clinics between 1976 and 1979. In 1976, clinics were the first source of contraceptives for 45 percent of never-married teenagers who had ever used the pill. In 1979, 53 percent of all teenagers who had ever used the pill, diaphragm, or IUD had originally obtained it from a clinic. This change was due primarily to the increased reliance of black teens on clinics (Zelnik et al., 1984).

Among teenagers seeking contraceptive services from organized providers, a majority "are sure" or "think" their parents know they are coming to a clinic—59 percent. A significant minority, however, 41 percent, report that their parents are not aware of their clinic attendance. Among teenagers who report that their parents know of their clinic attendance, the majority indicate that they voluntarily informed their parents; most of the remainder indicate that their parents suggested the

visit. Adolescent girls age 15 and younger were most likely to report that their parents suggested the visit. Only a small minority say their parents were informed because the clinic required it (Torres et al., 1980).

Among those who say that their parents don't know, a majority indicate that they would not come to a family planning clinic if parental notification were required. While many of these adolescent girls report that they would use drugstore or other nonprescription methods of contraception under these circumstances, some say that they would use no method. Only a very small proportion suggest that they would abstain from having sex (Torres et al., 1980). Twenty-six percent of teenage clinic patients said they came to a clinic rather than a private physician because they were afraid the doctor would tell their parents (Chamie et al., 1982). Thus it appears that parental consent or notification requirements are one factor affecting whether some teenagers will obtain contraceptive services and where they will go for them.

Another factor is cost. Fees charged by private physicians are significantly higher than those charged by clinics, and fewer private physicians will accept Medicaid payment for services. Orr and Forrest (1985) estimated that in 1983 the average fee charged by private physicians for an initial family planning visit was \$42, and only 17 percent would reduce the fee for low-income patients. This fee does not include the cost of the prescribed contraceptive. Birth control pills, the most commonly prescribed method for adolescents by both clinics and private physicians, cost between \$8.75 and \$15.00 per cycle (Hofferth, Vol. II:Ch. 9). In contrast, in 1984, average clinic fees for an initial visit and three-month supply of pills ranged from zero to \$51, depending on the patient's income and age. About half of all family planning agencies charged patients under 18 nothing or less than they would a comparable older woman (Torres, 1984). In 1982, 41 percent of teenage clinic patients received services free or had them paid for by Medicaid. The average fee among patients who paid was about \$11 (Chamie et al., 1982). Moreover, women who obtain prescription contraceptives through a clinic often do so at a significantly reduced cost (Hofferth, Vol. II:Ch. 9).

Only 53 percent of physicians who will give teenage patients contraceptives accept Medicaid reimbursement, although most of those who do not accept this form of payment indicated that they will refer eligible adolescents to other sources (Orr, 1984b). In contrast, virtually all organized family planning service providers will accept Medicaid payment. Chamie et al. (1982) found that the primary reason adolescent

clinic patients give for choosing a clinic rather than a private physician is cost (65 percent); the second most frequently cited reason is that the physician might tell her parents (26 percent).

Estimates of the unit costs of providing contraceptive services to adolescents in Illinois (including clinic visits and prescriptions) were \$75 per patient per year (Reis, 1984). Almost all agencies providing organized family planning services receive federal funding, and half receive funding from their state and/or local government; almost all collect fees from patients, and 4 in 10 have funding from other, private sources (Table 6-5).

On average, federal funding accounts for almost two-thirds of the income of family planning agencies; other government funds represent 17 percent. The largest source of federal funding is Title X of the Public Health Service Act. In fiscal 1983, \$117 million was spent by the federal government for contraceptive services under Title X (Gold and Nestor, 1985). Title X funds are used in every state. Most states (39-40 in fiscal 1983) also used funds from the Maternal and Child Health (MCH) block grant for family planning services, \$19 million in fiscal 1983, which includes both federal funds and a relatively small amount of state matching funds. Only 28 percent of agencies receive these funds, however, and they account for only 7 percent of average agency income. Funds from

the Social Services block grant were used for family planning services in about half the states in fiscal 1983: 45 percent of agencies received these funds, which amounted to \$38 million. Ninety percent of agencies serve Medicaid-eligible patients and receive reimbursement from Title XIX of the Social Security Act (Medicaid). In fiscal 1983, \$108 million of Medicaid funds were used to reimburse organizations and private physicians for contraceptive services. Family planning agencies accounted for about half this amount, and Medicaid reimbursements represented an average of 10 percent of their income (Gold and Nestor, 1985).

As discussed in Chapters 2 and 4, sexually active adolescents who practice contraception are less likely to experience an unintended pregnancy than those who do not (Zelnik et al., 1981). Those who use a prescription method (i.e., pills or an IUD) are significantly less likely to become pregnant than those who use nonprescription methods (i.e., condom, foam, rhythm, withdrawal) (Ory et al., 1983; Koenig and Zelnik, 1982). Next to sterilization, the pill is the most effective contraceptive when properly used. Effectiveness of use varies by age of user, socioeconomic status, and experience with a method. Younger women tend to have higher contraceptive failure rates with virtually all methods, and for most methods, women under age 22 are about twice as likely to experience an unintended pregnancy as women age 30 or older. This difference is probably due to a combination of factors: younger women are generally less experienced users; they have less accurate information about side effects; they are more fertile; and they may have more difficulty obtaining contraceptive services. Women under age 22 have approximately a 4.7 percent failure rate with the pill, compared with a 9.1 percent failure rate with the IUD, a 20.6 percent failure rate with the condom, and 32-41 percent failure rates with all other methods, including the diaphragm and rhythm (Ory et al., 1983). (Note: These rate estimates are based on use among married women between 1970 and 1976.)

Although many teenagers express concern about the negative health effects of pill use, for women age 15-19 who do not smoke, oral contraceptives carry the lowest mortality risk of any method except for barrier methods backed up by abortion: an estimated 0.5 deaths per 100,000 nonsterile women. The mortality risk associated with pill use is significantly lower than that associated with pregnancy and childbearing. The risk associated with condom use and other barrier methods is in fact the risk associated with unintended pregnancy and childbirth. How-

TABLE 6-5 Sources of Funding for Family Planning Agencies, 1983

| Source                      | Percentage Receiving | Mean Percentage of Funds Received |
|-----------------------------|----------------------|-----------------------------------|
| Federal                     | 98                   | 63                                |
| Title X                     | 77                   | 33                                |
| Title XIX                   | 90                   | 10                                |
| MCH block grant             | 28                   | 7                                 |
| Social Services block grant | 45                   | 13                                |
| State and local government  | 52                   | 17                                |
| Patient fees                | 92                   | 13                                |
| Other private               | 41                   | 7                                 |
| Total                       | 100                  | 100                               |

NOTE: Percentages may add to more than 100 because most agencies received funds from more than one source.

SOURCE: A. Torres, 1984, "The Effects of Federal Funding Cuts on Family Planning Services, 1980-1983," *Family Planning Perspectives* 16(3):135-136, May/June. Reprinted by permission.

ever, the mortality risk associated with the use of any method is extremely low for women under age 30 (Ory et al., 1983).

Among pill users, a variety of minor symptoms, including nausea, breast enlargement, weight gain, and dizziness are common complaints not requiring hospitalization. Although these typically disappear with continued use, they are often disturbing enough to cause many women, especially teenagers, to discontinue use out of fear that they may foreshadow more major complications, such as cardiovascular problems, benign liver tumors, and gall bladder disease. Hospitalizations associated with these complications do occur among women who take pills with higher doses of estrogen, among those with histories of impaired liver function, gall bladder disease, hypertension and thromboembolic disorders (e.g., phlebitis), and among those age 35 and older. They are, however, extremely rare among women under age 25: only 4 per 100,000 pill users. In addition, the pill affords protection against several health complications that frequently lead to hospitalization, including benign breast disease, uterine and endometrial cancers, ectopic pregnancy, and ovarian retention cysts. The protection appears to persist long after pill use is discontinued and may provide protection to women in their forties and fifties when the risk of these conditions is relatively high (Ory et al., 1983). Health risks associated with the IUD are significantly greater than those associated with the pill and relate mainly to pelvic inflammatory disease. The major problems requiring hospitalization that are attributable to the use of barrier methods and rhythm are the complications of pregnancy due to method failure (Ory et al., 1983).

Both clinics and private physicians are likely to recommend prescription methods that cannot be obtained without a medical visit. Clinics provide clients with information concerning the variety of contraceptive methods and provide all reversible methods at the clinic. Only 11 percent of private physicians who will prescribe contraceptives for adolescent women prescribe all three methods that must be obtained from a physician or clinic: 90 percent prescribe oral contraceptives, 61 percent will fit a diaphragm, and 23 percent will insert an IUD (Orr, 1984b). Among new family planning clinic patients under age 20, 70 percent were using no method of contraception before their first visit, compared with 12 percent after the visit. Those using no method include girls who were already pregnant, who chose not to use contraception, or who chose not to be sexually active. As Table 6-6 shows, 70 percent of all new patients chose the pill (representing 80 percent of those who left the clinic with a

TABLE 6-6 Contraceptive Methods Used by New Family Planning Clinic Patients Under Age 20, 1980 (in percent)

| Method                         | Before First Visit | After First Visit |
|--------------------------------|--------------------|-------------------|
| Contraceptive pills            | 21                 | 70                |
| Diaphragm                      | 1                  | 4                 |
| IUD                            | 1                  | 1                 |
| Spermicides/condom             | 3                  | 11                |
| Natural family planning/rhythm | 1                  | '                 |
| Other                          | 3                  | 2                 |
| None                           | 70                 | 12                |
| Total                          | 100                | 100               |

\*Less than 0.5 percent.

SOURCE: A. Torres and J.D. Forrest, 1983, "Family Planning Clinic Services in the United States, 1981," *Family Planning Perspectives* 15:278. Reprinted by permission.

contraceptive method) and 13 percent of those who obtained contraceptives chose spermicides or condoms or both.

Zelnik et al. (1984) found that teenagers who received contraceptive services from a clinic are more likely than those who use private physicians to be poor, black, and to have been younger at first intercourse. They found that clinic patients were more likely to experience an unintended pregnancy than those who obtained a method from a private physician, but after they introduced controls for race and age at first use of contraception, there was no significant difference in subsequent pregnancy rates. The pattern of prior contraceptive use, race, and socioeconomic status are more significant factors than source of contraceptive services in assessing the risk of unintended pregnancy. More research has been done on the impact of using family planning clinics, but no other work has investigated the separate impact of using private physicians for contraceptive services. Clinic attendance for contraceptive services does have a positive effect on contraceptive behavior, a negative effect on birth rates, and presumably a negative effect on the incidence of unintended pregnancy (Forrest et al., 1981). Clinic patients are more likely than their counterparts who are not in family planning programs to use more reliable methods and less likely to use no method at all (Forrest et al., 1981).

Research on clinic attendance shows that several factors are important in attracting adolescents to organized family planning facilities. One

indicator of effectiveness in drawing teenagers is mean delay between first intercourse and first clinic visit (Kisker, 1985). On average, teens first visit a clinic or doctor for contraception 11 months after they have first had sexual intercourse (Zelnik et al., 1984). About one in five teenage family planning clinic patients first comes to the clinic for a pregnancy test (Chamie et al., 1982). As Hofferth (Vol. II:Ch. 9) reports, among the most significant determinants of clinic attendance are those related to outreach and community relations, convenience, and the clinic's competition in providing contraceptive services. Thus, clinics that offer a community education program for teenagers in combination with the provision of contraceptive services (physical examination and prescription) have a lower mean delay between first intercourse and first visit. Those that obtain the support of local church groups, develop active relationships with local youth organizations, are open on weekends and in the evenings, accept walk-in clients, are conveniently located, require less counselor time per patient, and provide fewer services have a lower mean delay. Mean delay is also lower in Planned Parenthood clinics, in facilities of medium size (1,000-2,500 clients), and in those located in more prosperous areas where mean levels of schooling are higher. Mean delay is greater if local drugstores make nonprescription contraceptives easily available; however, the number of local private physicians who are willing to serve adolescent family planning patients does not appear to have any significant effect on clinic attendance (Kisker, 1985).

Continued attendance at a clinic is closely related to contraceptive continuation, although it is not synonymous (Shea et al., 1984). Adolescents who return to the clinic at regularly scheduled intervals (usually three months and six months after the initial visit) were found to be more reliable contraceptive users. Those who did not keep scheduled follow-up appointments during the first six months were found more likely to be inconsistent contraceptive users. Adolescents who made more than the regularly scheduled follow-up visits, particularly in the first two months, were frequently found to be having difficulty with their contraceptive method. These patients, despite their repeated visits, were more likely to become discouraged and either switch methods or discontinue contraceptive use altogether. Another study revealed that there may be many reasons why adolescents do not continue as clinic patients, and those who stop coming are not necessarily at greater risk of pregnancy (Coughlin, 1978). A significant proportion of those who were followed

up after a six-month absence reported that they were not sexually active; others were pregnant; still others had changed providers or switched to a nonprescription method. Less than 20 percent of the respondents in this study indicated that they were still sexually active but using no method at all (Coughlin, 1978). In sum, continued attendance at a clinic does not necessarily mean that teenagers are contracepting effectively and continuously. Similarly, because an adolescent girl does not continue to attend the same clinic at regularly scheduled intervals does not necessarily mean she is not contracepting. Many of the factors associated with continued attendance are the same as those associated with reasons for first attendance (Kisker, 1985). Satisfaction with the prescribed or recommended contraceptive method also appears to be an important determinant of whether teenagers will return for regularly scheduled follow-up visits (Shea et al., 1984).

Critics of family planning programs suggest that the availability of contraceptive services has caused higher rates of sexual activity, unintended pregnancy, abortion, and births to unmarried teenagers. Indeed, the period of significant increase in teenage sexual activity during the 1970s was paralleled by a significant growth in the availability of contraceptive services for both adult women and adolescents. However, whether there is a causal connection or whether both trends were responses to the same changing social context and mores is unclear. Using data for California, Kasun (1982) concluded that increased spending on contraceptive services led to increased levels of sexual activity and, as a result, increased pregnancies, abortion, and births outside marriage. However, as Hofferth (Vol. II:Ch. 9) points out, associations do not show causation, and Kasun (1982) did not control for initial differences between California and the rest of the United States, did not conduct a rigorous statistical analysis controlling for other factors that might affect levels of sexual activity among different subgroups or at different points in time, and did not measure sexual activity.

In contrast, Moore and Caldwell (1977) found no association between the availability of family planning services and the probability that an adolescent girl would initiate sexual intercourse, net of other factors (age, socioeconomic status, family structure, urban/rural residence, religiousness, birth cohort). However, as Hofferth (Vol. II:Ch. 9) concludes, more research is needed on this issue.

Research on the impact of family planning programs on teen pregnancy is also limited because of the lack of abortion and pregnancy data.

Births, however, are more readily measured. Hofferth (Vol. II:Ch. 9) reports only one study that has addressed this issue. Using data from the 1971 National Survey of Young Women, Moore and Caldwell (1977) found that black teenagers ages 16-18 living in areas with the most subsidized contraceptive services were significantly less likely to become pregnant than their peers. This finding did not apply to other subgroups. According to these investigators, however, black teenagers are overrepresented among users of subsidized contraceptive services compared with whites and therefore may be more affected by the availability of such services.

#### *Condom Distribution Programs*

Programs aimed at condom distribution are more narrowly targeted toward young men than traditional contraceptive services provided by family planning agencies. Although many clinics have initiated efforts to involve young men in their programs, there is little evidence of success. Before oral contraceptives were widely available, condoms were the contraceptive method of choice among many U.S. men and women. However, the advent of the pill caused many to regard birth control as a "women's issue," and the condom fell out of fashion (Scales and Beckstein, 1982). In recent years, many family planning providers and public health officials concerned about pregnancy prevention and the reproductive health of adolescents have once again begun to promote condom use. Two factors are especially relevant to their renewed interest in condom use by teenagers: (1) recognition that the vulnerable period between first intercourse and first use of prescription contraception methods by adolescent girls is frequently as long as a year and (2) concern about the spread of sexually transmitted diseases, especially genital herpes and more recently the acquired immune deficiency virus. Although the international family planning literature describes a number of approaches to condom distribution in developing countries, few domestic program models have emerged (Dryfoos, 1985).

Studies of male attitudes about contraception and, in particular, condom use have shown that a majority of adolescent boys believe that "sexually active teenagers have a harder time" obtaining contraceptive methods than do adults, that "use of birth control makes sex seem preplanned," and that "only females should use birth control" (Finkel and Finkel, 1975). However, a majority of boys in the same survey

believed that a male who uses a condom "shows respect for his girlfriend." Similarly, a study of black males who attended an adolescent clinic in Baltimore found that more than 90 percent believed they share responsibility for preventing pregnancy with their partners (although less than 20 percent believed that the full or major responsibility was theirs). Approximately 40 percent believed condoms were very good at preventing pregnancy, and the same number reported use of a condom at last intercourse (Clark et al., 1984). In this regard, Finkel and Finkel (1975) found that over 90 percent of the boys they surveyed who reported use of a condom at last intercourse also reported that they always or sometimes used one, indicating an inclination toward condom use. While acknowledging the general problem of adolescent male attitudes about contraceptive responsibility, Clark et al. (1984) conclude that the substantial level of condom use among the inner-city population they studied suggests a good basis on which to build contraceptive programs targeted at males. However, many boys and girls apparently still believe that condoms will interfere with sexual pleasure. Therefore, programs need to address attitudes toward condom use (Dryfoos, 1985).

Condom distribution programs have been implemented by a variety of organizations, including public health departments, Planned Parenthood affiliates, and university hospitals. Distribution has been managed by organizations ranging from family planning providers and public health organizations to youth organizations, public employment programs, and labor unions. Locations of distribution have included clinics, emergency rooms, pharmacies, recreation centers, union halls, pool halls, barber shops, restaurants, bars, and gas stations. Some programs have employed male outreach workers to counsel adolescent males on condom use and to hand out instructional materials along with free samples; others have relied on less assertive approaches, simply making condoms available in places where young men congregate. In some communities, free-standing storefronts have been established for disseminating literature, counseling on reproductive health and contraceptive use, and condom distribution. The Rubber Tree in Seattle, Wash., is a prototype of such a program (Parke and Neville, Vol. II:Ch. 7). In other places condom advocates have organized a National Condom Week around Valentine's Day to launch a public awareness campaign. Recently, in Oakland, Calif., pharmacies were encouraged to advertise, hand out coupons and free samples, and to sell condoms at reduced prices.

None of these approaches has been rigorously evaluated, although data from a condom distribution program sponsored by the University of North Carolina population program in the late 1960s tracked use over a year (Arnold, 1973). That program operated through an antipoverty summer youth program and used male outreach workers to establish distribution points in pool halls, barber shops, a restaurant, and a grocery store. As reported by Dryfoos (1985), a study of program operations found that consumers used distribution sites near their homes, although the location itself was insignificant, and that more condoms were distributed during the week than on weekends. Users were found to be similar to the general population in the target area. After a year, the majority (69 to 81 percent) of respondents reported use of a condom at last intercourse, and fertility rates among black adolescent girls residing in the target area declined significantly (19 percent) compared with those in similar communities in the county that were outside the target area. Although these findings suggest the potential usefulness of new efforts to implement and test condom distribution programs, they do not provide any conclusive evidence of the effectiveness of such an approach. As Dryfoos (1985) suggests, evaluation of the effectiveness of programs of this type is difficult in most communities today because of the large number of other factors that influence fertility rates.

#### *School-Based Clinics*

Family planning clinic attendance has grown among teenagers over the past decade. Nevertheless, concern on the part of advocacy groups and health and education professionals that many teenagers lack sufficient access to health services has generated a growing number of school-based clinics, many of which include family planning services. During the past five years, 43 such programs have been initiated in junior and senior high schools in 24 different communities. The Center for Population Options has identified an additional 50 communities that are now beginning to develop school-based programs (Kirby, 1985). A wide range of organizations has taken responsibility for establishing and operating clinics, including hospitals and medical schools, community clinics, public health departments, and Planned Parenthood affiliates.

In general, the goal of school-based clinics is to improve the overall physical and mental health of teenagers, including the reduction of teenage pregnancy. However, none considers adolescent family planning

to be its sole purpose. Most offer a variety of services, including athletic physicals, general health assessments, treatment for minor illnesses and injuries, laboratory and diagnostic screenings (e.g., sickle cell anemia and sexually transmitted diseases), immunizations, first aid and hygiene, Early and Periodic Screening, Diagnosis and Treatment testing, family planning counseling and referral, prenatal and post-partum care, drug and alcohol abuse programs, nutrition and weight reduction programs, family counseling, and information and referral for health and social services not provided. Because of the range of services that most clinics provide, they serve both boys and girls. Some involve boys in family planning, typically when they come in for athletic physicals and are asked to provide information concerning sexual activity as a part of their medical history. Clinics vary in the range of services they offer, in some cases because of the differing needs of their students, in other cases because of the availability of funding or state and local restrictions.

Clinics also vary in the scope of their family planning services. At a minimum they all provide counseling, make referrals to family planning clinics or private physicians, and do follow-up after referrals. Approximately three-quarters of those currently in operation conduct pelvic exams and write prescriptions for contraceptive methods. Several actually distribute contraceptives at the clinic. Kirby (1985) observes that clinic policies concerning birth control are often consistent with their policies about other treatments: if they write prescriptions for other medications, they also generally write prescriptions for contraceptives; if they dispense other medications, they typically dispense contraceptives as well. None of the existing school-based clinics performs abortions. Kirby (1985) reports that while some will present a pregnant student with all the legal options, few, if any, make referrals to abortion providers.

School-based clinics are intended to capitalize on many of the features that existing research has shown are associated with teenagers' attendance at family planning clinics, including convenience, comfort, confidentiality, and cost. Located within the school building or on school grounds, clinics are accessible. Students don't have to take a bus or drive to another part of town or request their parents' assistance in getting them to the services. Most clinics operate during school hours and do not require appointments. Because they are visible entities in the school, clinic staff become familiar to students and vice versa. In addition, because the programs are geared to the needs of adolescents and students

are aware that their friends use the services, school-based clinics seem more approachable to many young people than doctors' offices, hospitals, or freestanding adult clinics. Most if not all school-based clinics require written consent from parents before students can receive medical services. Generally parents are asked to sign a blanket permission form at the beginning of the academic year, but they are not informed when students come to the clinic for services. Nor are patient records accessible to teachers or school officials. Moreover, because the clinics provide a wide range of services, the reason for an individual's visit cannot be automatically assumed. In most clinics, services are provided free to registered students, although several charge a nominal annual fee (average \$12) to help offset operating costs (Kirby, 1985).

The annual costs of school-based clinics vary dramatically depending on their size, staffing, and range of services. Kirby (1985) reports that they range from about \$25,000 to \$250,000 per year, averaging about \$125 per student. Clinics are supported by a variety of sources, including various federal and state funds, local funds and in-kind support, and private foundation and corporation grants.

An evaluation of the effectiveness of approximately 10 school-based clinics is now under way by the Center for Population Options. Data from the St. Paul, Minn., Maternal and Infant Care Project, which began in 1973, show that the fertility rate in schools with clinics has dropped substantially—from 79 births per 1,000 in 1973 to 26 births per 1,000 in 1983–1984 (Edwards et al., 1980). These figures compare favorably with national statistics that showed a birth rate of 45 per 1,000 for whites in 1977 and in 1982. Unfortunately, as Hofferth (Vol. II:Ch. 9) points out, no information is available from the St. Paul project on the trend in pregnancies and abortions, so we don't know how much of the decline in births is due to a decrease in pregnancies and how much to an increase in abortion. The 12-month and 24-month contraception continuation rates (after the initial visit) were also quite favorable: 93 percent and 82 percent, respectively, by 1976–1977. Moreover, the dropout rate among girls who delivered and kept their babies declined from 45 percent to 10 percent between 1973 and 1976–1977 (Edwards et al., 1980).

These findings are extremely encouraging and to some extent are responsible for the current avid interest in school-based clinics. The Select Committee on Children, Youth and Families (U.S. Congress, House, 1986), in a recent report on adolescent pregnancy, strongly recommended the establishment of school-based clinics. However, the

evidence requires further corroboration. As Dryfoos (1984b) reports, while fertility rates are still decreasing in the St. Paul schools with clinics, no comparisons have been made with matched high schools or populations. Study designs for the programs included in the evaluation will vary somewhat from clinic to clinic, but the major strategy is to administer questionnaires in both program and matched nonprogram schools at two points in time as well as to search birth records and academic files. This study is expected to provide valuable understanding of the costs, effects, and effectiveness of these programs.

Although the school-based model seems intuitively sensible and appears to have a number of advantages over other health delivery models for adolescents, it also has some limitations. First, school-based clinics are generally restricted to serving teenagers enrolled in school. Most cannot serve students who have dropped out, many of whom have significant health care needs. Second, many school-based clinics operate only during the academic school year and thus are not open to students over weekends, on holidays, and during vacations. Third, clinics that do not fill prescriptions (e.g., birth control pills) force students to go elsewhere to obtain contraceptives, which may deter some teens from effective contraceptive practice. The evaluation that is now under way will help in assessing the seriousness of these limitations.

A variation on the school-based clinic model aimed at overcoming some of these limitations is suggested by the Self Center in Baltimore, Md. This program, established and directed by the Johns Hopkins School of Medicine, initially focused its services on the students at a predominantly black, inner-city senior high school and junior high school. The program combined sex education with family planning and counseling services. Located in a storefront adjacent to, but clearly separate from, the two schools, the center was not constrained by the school calendar or schedule in its days and hours of operation. Both boys and girls could use the clinic and were eligible for services as long as they remained in one or another of the two schools. All services were free. Center staff, including a nurse practitioner and a social worker, were visible figures in the schools, providing sex education classes, individual counseling, and clinic outreach. During after-school hours, the same staff were available in the clinic to conduct rap sessions and educational groups. Teenagers who attended the clinic for contraceptive services were followed up through the schools. Those who experienced pregnancies were referred to the Johns Hopkins Adolescent Pregnancy Program

for comprehensive prenatal health care and social services or to an abortion clinic.

The Self Center was developed as a three-year demonstration project with an evaluation component. Data were collected by self-administered questionnaires at the outset and periodically throughout the period of operation to assess changes in student knowledge, attitudes, and behavior. Students in the program schools were compared with students in two other urban schools; the control sample was carefully matched for race and socioeconomic status. The researchers measured program effects according to clients' length of exposure to the program (Zabin et al., 1986).

Among the significant findings from the first report of the evaluation are improvements in levels of knowledge, especially among younger students. In particular, girls showed a substantial increase in knowledge about the fertile time in their monthly cycle. Both boys and girls showed improvement in their understanding of contraceptive methods. The program had little effect on students' attitudes about teenage pregnancy, the ideal age for childbearing, or the acceptability of sex between two people (Zabin et al., 1986).

Most interesting, however, are the findings concerning effects on behavior. Despite very high baseline levels of sexual activity, the evaluation showed a postponement of first intercourse that averaged seven months for girls who were exposed to the program for the full three years. Those with less exposure showed much shorter delays, suggesting the importance of early intervention before the initiation of intercourse to effect change. If such delays can be replicated in other similar school-based or school-related clinics, they refute the argument that easy access to services encourages early intercourse (Zabin et al., 1986).

The most dramatic behavioral change, however, was in clinic attendance. The proportions of sexually active students having attended a clinic rose for students of both genders and at all grade levels. In addition, the proportion of girls with no sexual experience who attended in preparation for first coitus and those who attended in the early months after initiation of sexual activity increased markedly. Perhaps especially significant for its implications for future interventions is the high level of male attendance among junior high school students. More than half of the junior high program registrants were boys (Zabin et al., 1986).

Changes in contraceptive use were also significant, with upward trends for all groups. However, younger students' use increased more

the longer their exposure to the program, suggesting that early risk can be reduced with early access to services. Finally, increased and prompt clinic attendance and increased use of contraception appear to have had a significant impact on pregnancy. While conceptions increased dramatically in the control group schools during this period (from 32 to 51 percent), in the program schools, conceptions dropped by 26 percent (Zabin et al., 1986).

The Self Center model differs somewhat from the typical school-based clinic. Nevertheless, if these results can be replicated in other settings, they give solid support to the school-based clinic movement. This program suggests that the provision of free proximate contraceptive services that are linked to a strong education component may accelerate contraceptive behavior among sexually active teenagers without encouraging sexual intercourse among those who are not personally ready for such involvement. Further efforts to test this model and compare it with the typical school-based clinic model are needed.

#### *Pregnancy Testing and Counseling*

Pregnancy testing is available to teenagers in public health centers, hospitals, family planning clinics, and abortion clinics, from private physicians, and even at many drugstores. This service is generally provided at little or no cost to the client. In addition, home pregnancy tests are becoming increasingly popular among teenagers as well as adult women, because they afford an opportunity to detect a suspected pregnancy in privacy, at relatively low cost. Although they are not a substitute for laboratory testing and a pelvic exam, home tests are generally an accurate indicator of pregnancy when properly used. Teenagers frequently delay testing for pregnancy either because they do not recognize the early physical signs of pregnancy or because they are reluctant to inform parents and do not know where to go for testing. As a result, many girls who are pregnant do not get confirmation until they are well into or beyond the first trimester of pregnancy. This delay has serious implications for their receiving adequate prenatal care, which in turn has implications for the health of their children. In addition, it affects their options for pregnancy resolution.

If a pregnancy test is positive, most adolescent girls need non-judgmental counseling to outline the available options for pregnancy resolution as well as necessary referral to prenatal and maternity care,

social services, financial support, or abortion services, and subsequent follow-up. If the test is negative, they usually need contraceptive counseling and referral for birth control. Adherence to principles of voluntarism and informed consent require that facilities provide their patients with an account of the possible risks, benefits, and consequences of maternity and abortion, the available alternatives, including adoption, and the resources available for needed care (Alan Guttmacher Institute, 1981). Nevertheless, where a girl goes for pregnancy testing may affect the amount and type of pregnancy counseling she receives. Since nearly 20 percent of family planning clinic patients first come to the facility because of a suspected pregnancy, most clinics have established pregnancy testing and counseling programs (Alan Guttmacher Institute, 1981). Clinics receiving federal support under Title X are required by law to inform patients of their full range of legal options. Private pro-life organizations, such as Birthright, provide pregnancy testing, but generally do not discuss or refer a teenager for contraception if she is not pregnant and do not present pregnancy termination as an option or refer clients to abortion services (Alan Guttmacher Institute, 1981). Most school-based clinics provide pregnancy testing and counseling, but few discuss abortion or refer students to abortion providers (Kirby, 1985). Abortion clinics also perform pregnancy testing and counseling; while there may be some bias in the message provided by counselors in these settings, it also seems likely that most patients at such clinics have already decided how to resolve their pregnancies.

No rigorous study of pregnancy testing and counseling services has been done, nor has any careful assessment of how the auspices of service delivery affect decisions concerning pregnancy outcome for different clients. Available studies of decision making, however, suggest that many teenagers have already made up their minds about whether to abort or carry to term before they seek pregnancy testing and counseling services and therefore choose service providers on this basis (Rosen, 1980).

#### *Hot Lines*

Telephone hot lines that teenagers can use anonymously to obtain accurate information about contraception, pregnancy, abortion, sexually transmitted diseases or other reproductive health problems, and adoption alternatives have developed in several cities. Hot line operators can dispel myths about contraceptive methods, symptoms of disease, pregnancy care and complications, etc., and can provide outreach for

local clinics and other service providers. Hot lines are typically operated by public health departments, family planning and adolescent health clinics, or local advocacy organizations and youth-serving agencies. Typically they are staffed by trained volunteers who can connect directly with health and mental health professionals when emergency situations arise.

The experience of several hot lines offers interesting insights. The Cleveland Program for Sexual Learning's hot line Sexline was developed in response to the need for general information and referral as expressed by various parent and community groups (Nickel and Delaney, 1985). Over a three-year period the service answered more than 32,000 calls, although there was no tracking system to determine how many resulted in clinic visits or contraceptive use. In New York City, a similar hot line to provide information and referral linked callers directly to clinics by scheduling appointments for those who expressed interest in obtaining contraceptive services.

Hot lines appear to be a potentially effective means of providing teenagers with information and referring them to services. However, evidence of the effectiveness of these programs in increasing contraceptive use and reducing unintended pregnancies and births among adolescents is not currently available.

#### PROGRAMS THAT ENHANCE LIFE OPTIONS

The availability of information, education programs, and family planning services has increased adolescents' capability to prevent early unintended pregnancy and childbearing. For many highly motivated teenagers these programs have provided the basic tools for making informed decisions about their sexual behavior and receiving the necessary health and social services to control their fertility. Unless young people are motivated to avoid pregnancy, however, these programs may have little positive effect. A variety of initiatives have been established to enhance young people's sense of their future—their sense of self-worth, their understanding of the value of education, and their awareness of work and career options.

#### *Programs to Improve Life Planning*

Programs to improve life planning are based on the assumption that the motivation to delay parenthood is closely related to decisions concerning life goals and an understanding of how early childbearing will

affect one's ability to achieve one's goals. Most of these interventions have been directed at adolescent girls; very few have been directed at boys. Most have been organized through various youth-serving agencies, for example, Girls' Clubs and Boys' Clubs.

Project Choice is an extracurricular club organized and run by volunteer youth leaders. It is intended to help at-risk young women explore future career options other than motherhood and to understand the necessary steps in achieving alternative career goals. Meetings are held weekly after school, and activities involve information-sharing discussion to help participants establish personal goals. Leaders provide support in the form of encouragement and reinforcement to move teenagers along their chosen paths. Information concerning contraception and access to contraceptive services is provided, but altering contraceptive behavior is neither the only nor the primary goal of the program (Alexander, 1984). An evaluation of Project Choice did not provide convincing evidence of its effectiveness, although as Hofferth (Vol. II:Ch. 9) suggests, the research design was not very rigorous (e.g., poorly selected control groups, abstract outcome measures) and the stated goals of the program were not clearly delineated. In addition, because only a small number of girls participated in the program, there is little evidence of its effectiveness and generalizability.

Similarly, the Teen Outreach Project sponsored by the Junior League in St. Louis, Mo., involved an after-school program in two high schools aimed at improving self-esteem and reducing the incidence of unintended pregnancy and dropping out of school. High-risk students were invited to join discussion groups and to act as volunteers in community service programs. The program was replicated in eight cities and evaluated. Preliminary results suggest that the program was successful in lowering pregnancy rates and reducing course failure; however, it had little effect on the likelihood of being suspended from school (Philliber, 1985).

A second approach to improving life planning skills is represented by the Life Planning Project developed by the Center for Population Options. Its curricular materials link vocational choice with family design and pregnancy prevention. The program, which is currently being tested in three cities, involves the intensive participation of a broad range of youth-serving organizations in each community, whose staff were trained by CPO consultants to use the curricular materials to provide their adolescent members with more accurate information and sensitive

guidance related to adolescent reproductive health. The major objective of the project is to help teenagers prevent pregnancy, especially as a part of understanding and planning for their personal and economic futures (Center for Population Options, 1984).

In a related effort, the Girls' Clubs of Santa Barbara, Calif., developed a workbook for adolescent girls entitled *Choices*. The workbook provides teenagers with problem-solving exercises that require sexual decision-making and life-planning skills. The purpose of the exercises is to help girls think about their futures in the areas of family life and work outside the home. The exercises are structured to enhance the development of skills and to present teenagers with an understanding of the social and economic consequences of early childbearing, in particular the likely effects on educational attainment and occupational choice (Quinn, 1985). *Choices* is currently being evaluated. A comparable workbook for boys, entitled *Challenges*, has also been produced.

In addition, the *Choices* workbook is being incorporated into a more comprehensive experimental program that will be implemented by Girls' Clubs at eight sites across the country (four experimental and four control). The program will include four age-related components and will be aimed at girls ages 12-18. The first component will involve mother-daughter workshops to foster communication about sexual behavior and values among young teenagers. The second component, modeled after the Postponing Sexual Involvement program in Atlanta, will encourage young teenagers to delay sexual intercourse, teaching them how to say "no." The third component, to be directed at 15- to 18-year-olds, will apply the *Choices* curriculum to help girls develop educational and career aspirations. And the fourth component, also intended for older girls, will link club members to clinic services. The program will involve both pretest and posttest questionnaires to measure effects on girls' attitudes about education, work, and family formation as well as on their sexual, contraceptive, and fertility behavior. This evaluation is expected to significantly increase knowledge of the effects and effectiveness of life planning approaches.

#### *Role Model and Mentoring Programs*

Role model and mentoring programs are organized to provide individual support, counseling, and tutoring for teenagers by trained peer counselors, mentors, and adult community volunteers. Some have preg-

nancy prevention (or prevention of a repeat pregnancy) as an explicit goal; others are aimed at providing models of desirable social behavior, of which sexual and fertility behavior are only part. Among many youth-serving organizations this has long been an accepted approach, for example, Big Brothers and Big Sisters, and it has been used with both boys and girls. More recently, the National Urban League has initiated a program through Kappa Alpha Psi, the national black fraternity. College-age fraternity brothers serve as role models and mentors to inner-city boys ages 11-15. They spend three evenings a week with the young male participants, one-to-one or one-to-two, in a diverse program of school remediation, recreation, and community service activities. Special attention is given to encouraging responsible sexual behavior. A similar program through Delta Sigma Theta, a national black sorority, has recently been organized. The use of "community women" in Project Redirection is discussed in Chapter 7.

No data are currently available to assess the effectiveness of such role model and mentoring programs in reducing adolescent pregnancies. The Kappa Alpha Psi and Delta Sigma Theta programs will be evaluated as a part of the Too Early Childbearing Network, and this information should provide insights concerning effects on school retention, achievement, decision-making skills, and aspirations and attitudes as well as on sexual and fertility behavior.

#### *Programs to Improve School Performance*

Based in part on concern that low achievement and school dropout rates are associated with adolescent fertility and that young women who give birth before graduation are less likely to finish school, many school systems have begun to develop programs to bolster achievement and to keep adolescents enrolled in school.

Over the past 20 years an enormous body of research has developed on issues of effective schooling (Garbarino and Asp, 1981; Averch et al., 1972; Tyack, 1974). Among those factors most often cited as key to secondary school success are (1) a student's perception of the connection between present schooling and prospects for their future life options and (2) mastery of basic cognitive and social skills. An adolescent who regards competent performance in the role of student as a precondition for successful transition to the roles of adulthood has the necessary motivation for school (Garbarino and Asp, 1981; Stinchcombe, 1964).

Unfortunately for many socially and economically disadvantaged youth, these connections are not evident (Greer, 1972). In addition, mastery of basic cognitive and social skills has been shown to significantly affect students' level of motivation (Garbarino and Asp, 1981; Gold, 1969). Doing well reinforces the desire to do well. Conversely, failure frequently diminishes the perception of one's ability to perform and one's identification with the role of student. Academic achievement and school retention are related to socioeconomic status.

Research has shown that the quality of schools (as measured by staff training, the availability of learning resources, teacher/student ratios, etc.) affects achievement and school retention, especially among disadvantaged groups—the poor and racial and ethnic minorities (Rutter, 1983). As a result, some 2,500 alternative schools (special programs to improve school performance) have been established throughout the United States (Dryfoos, 1983). They are located within regular secondary schools, in separate facilities, and even in the workplace. The purpose of the programs is to provide educational opportunities that are responsive to the special needs of at-risk students, particularly those who are behind grade level and are experiencing behavior and attendance problems. Most of these programs stress individualized learning, counseling, social supports, and remedial education, and they often include work-study arrangements. An essential ingredient is strong interpersonal relations between the staff and the students.

Assessments of the outcomes of special programs to improve school performance indicate that they can be effective in keeping young people in school and boosting achievement. There are no data, however, on whether such programs lower fertility rates. Studies that focus on how and to what extent such programs influence adolescent sexual and fertility behavior are needed.

#### *Youth Employment Programs*

Concern about high youth unemployment rates, especially among minorities, has led to the development of numerous programs over the past 20 years to enhance the employability of young people by teaching job skills and job search skills, by providing incentives to employers to hire disadvantaged youth, and by actually placing individuals in jobs. Many of these were large-scale programs supported by the U.S. Department of Labor. Most were intended to address the employment prob-

lems of young men, not young women. Delaying family formation or preventing repeat childbearing has not been a primary goal of youth employment programs, and few have given any attention at all to the family responsibilities of program participants (Simms, 1985). Despite the vast literature on the effects and effectiveness of such interventions, there is little evidence of their impact on adolescent sexual and fertility behavior. Only the evaluation of the Job Corps program has specifically addressed the issue. Participation in this program appeared to delay family formation and reduce the incidence of nonmarital childbearing. In addition, the positive effects of the program on employment, earnings, educational attainment, and welfare receipt were larger for women without children than for those with children (Mallar et al., 1978).

A study, which is now under way using data from the federally supported Youth Incentive Entitlement Pilot Projects (YIEPP), promises to yield additional information on the impact of youth employment programs on family formation. This program provided jobs to 16- to 19-year-olds enrolled in school if they met specified attendance and performance standards (Simms, 1985). Although preliminary findings suggest that the program had no effect on the high rate of childbearing, the current study will analyze these data in greater detail, looking specifically at the effects on particular subgroups of participants.

Two other demonstrations that are currently under way or recently completed should provide useful information concerning the potential for youth employment programs to help delay childbearing. First, in 1985, Public/Private Ventures initiated the Summer Training and Education Program (STEP), a summer employment and remedial education demonstration program for 14- and 15-year-olds. The short-term goals of the program are to (1) produce learning gains (rather than declines) during the summer months and (2) improve knowledge of birth control and the consequences of teenage pregnancy and childbearing. Longer-term goals include (1) improved school performance and high school graduation, (2) improved labor market performance, and (3) reduced adolescent childbearing. The program has been implemented in five U.S. cities and will involve 3,000 young people randomly assigned to treatment and control groups. The program is planned to continue through the summers of 1986 and 1987 and a longitudinal phase of the study will follow treatments and controls through 1992—six months beyond their scheduled dates of high school graduation (Branch et al., 1986). Preliminary findings from the first summer indicate that the

impact of participation in STEP varied by sex, race, and site. Overall, treatment youth outscored their controls in reading and math by approximately one-quarter of a grade equivalent. Girls showed even greater gains, and Hispanic teenagers, whose high school dropout rates are significantly higher than for both blacks and whites, appear to have benefited most. Hispanic boys and girls in the treatment group outscored their controls in both reading and math by half a grade equivalent (Branch et al., 1986).

The other demonstration is the Teen Fathers Collaboration Project, sponsored by Bank Street College between April 1983 and March 1985. The program involved 400 teenage fathers in eight cities across the country. These young men received job training, counseling and referral services, educational counseling, and parenting education. The goal was to improve their educational status, labor market participation, and parenting skills and behavior. Pretest and posttest data were collected, but no results are yet available (Hofferth, Vol. II:Ch. 9).

As with alternative school programs, more research is needed on the effects of youth employment programs on adolescent sexual and fertility behavior. In part that means making the delay of childbearing an explicit goal of such demonstrations. As Moore et al. (1984) report, most young people, even minority members and those from disadvantaged backgrounds, have high occupational aspirations. Many of them, however, fail to understand the implications of early family formation for achieving their goals.

#### *Comprehensive Community-Based Prevention Programs*

Several community-based programs have been established in recent years to provide educational, vocational, recreational, legal, health, and social services to disadvantaged young people in an integrated services setting. Pregnancy prevention is usually only one (although an important one) of the goals of these support programs. Most are located in youth centers and offer a variety of services on-site. Typically, for services they are not equipped to provide, staff refer clients to other agencies and resources within the community (e.g., abortion clinics) and provide appropriate follow-up. These programs generally emphasize a coordinated youth-oriented approach, which recognizes that many of the young people they serve come from multiproblem families and require more than one type of support or service.

The two most well-known examples of this type of intervention are

The Bridge Over Troubled Waters, located in the heart of Boston's troubled "Tenderloin" district, and The Door, located in lower Manhattan. Both are multiservice centers that serve young people, boys and girls, ages 12-21. No systematic evaluation of either of these programs has been done; thus there are no data bearing specifically on the question of their short- and long-term effects on sexual and fertility behavior. Nor are there any available cost data. Hofferth (Vol. II:Ch. 9) reports, however, that an evaluation of The Door is now in the planning stages.

### COALITIONS AND INTEREST GROUPS

A variety of national, state, and local coalitions has been formed in recent years to address the problems of teenage pregnancy and childbearing. A major objective of these groups and organizations has been the development and implementation of effective prevention strategies. Typically, these coalitions have sought to involve a wide range of relevant public and private agencies, advocacy organizations, and service providers in needs assessment, program planning, implementation, networking, and evaluation activities. The major premise behind such coalitions is that effective solutions must come from collective ownership of the problems and cooperative efforts to identify and mobilize available resources to address them.

Among the most visible national interest groups to have formed adolescent pregnancy coalitions are the Children's Defense Fund and the National Urban League. The Children's Defense Fund has directed its efforts toward (1) consciousness raising among black women's groups and religious constituencies, (2) information sharing about promising outreach and service delivery approaches, (3) gathering and disseminating research information, (4) advocating public policy initiatives, and (5) examining the role of the media and its messages to minority youth. In conjunction with four other major national organizations (i.e., the Association of Junior Leagues, the National Council of Negro Women, the National Coalition of 100 Black Women, and the March of Dimes Birth Defects Foundation), the Children's Defense Fund has launched its Adolescent Pregnancy Childwatch Program to stimulate and support local communities' efforts to address the problems of adolescent pregnancy and childbearing, especially as they pertain to minority youth. A manual presenting a framework for assessing local needs, identifying and mobilizing available service resources, generating local support, and analyzing program outcomes was developed. Teams from 44 communi-

ties across the country were trained to implement the program. The Children's Defense Fund staff will continue to provide coordination, technical assistance, and support for these local initiatives as well as to monitor their success.

The National Urban League has similarly established a network of 10 adolescent pregnancy programs, three focused on alternative approaches to prevention, including parent-child communication and mentoring, and seven focused on alternative strategies to help teenagers who are already pregnant. All of these projects participate in the Too Early Childbearing Network, a data gathering and information system.

At the state level, numerous coalitions and task forces have been established to focus attention, energy, and resources on the problems of teenage pregnancy and childbearing. These initiatives vary: some involve the coordination of state-level public agencies; others involve private advocates, interest groups, and service providers. Some are public initiatives; others are voluntary. Some focus on developing policies and programs and coordinating the allocation of state-level and state-wide resources; others stress coordination between state-level agencies and local program planning efforts. One of the most important functions of all these efforts is to build networks and promote communication among public- and private-sector groups who share concern about pregnancy prevention. The Reagan administration's effort to diminish federal responsibility for health and human services during the past several years has put the spotlight on the states. State-level commissioners of health and welfare acknowledge that they currently have the opportunity and responsibility to provide policy and program leadership on these issues.

It will be difficult to measure the impact of these types of coalitions and task forces in actually preventing early pregnancy and childbearing. However, their high visibility suggests that they have been successful at raising public and professional consciousness about the issues of adolescent pregnancy and childbearing and the need to address them at the state and local level.

### MEASURING THE COSTS AND BENEFITS OF PREVENTION PROGRAMS

Policy makers, program administrators, and advocates frequently call for information on the costs and benefits of alternative programs, especially those aimed at pregnancy prevention. Such information is often

unavailable because adequate measures of costs (i.e., the dollar value of a program's "input") and effectiveness (i.e., the amount of "output" that results from each unit of "input") are missing. For this reason, traditional cost-benefit analyses of adolescent pregnancy programs are often problematic.

Burt and Levy (Vol. II:Ch. 10) suggest that one coherent measure of a program's output is the savings in public costs, for example, welfare costs, medical costs, food stamp, social service, and housing costs. They further suggest that these costs should be aggregated and discounted over the first 20 years of life for a child born to an adolescent mother. Discounting future costs in this way recognizes that, because of positive interest rates, predictable future costs can be reduced if they are anticipated and necessary funds are allocated at the time of birth in order to take advantage of investment earning. Thus, for example, with a 7 percent interest rate, a \$5.00 cost next year requires setting aside \$4.67 today.

Using this framework, an intervention generates positive savings, even if it only postpones a pregnancy for a year. Based on their calculations, Burt and Levy project that the current discounted value of future public costs associated with a first birth to a teenager in 1985 are as follows:

| <i>Age of teenager at first birth</i> | <i>20-year discounted public expenditures</i> |
|---------------------------------------|---|
| 15                                    | \$18,130                                      |
| 16                                    | 17,851  |
| 17                                    | 17,464  |
| 18                                    | 12,214  |
| 19                                    | 10,671  |

These costs include assumptions about subsequent births, the likelihood of the young mother's receiving Aid to Families With Dependent Children (AFDC), the likelihood of high school completion, employment, and medical risk as discussed in Chapter 5. The costs are reduced with each year that a first birth is postponed because of reduced probabilities of receiving welfare, smaller completed family size, and fewer medical complications for later childbearers. From these estimates it is apparent that there is a potential savings of public costs for every year that a first birth to a teenager can be postponed. However, the greatest savings would be associated with postponing a first birth until age 18 or 19, assuming that a teenage girl continues and completes high school.

While a delay from age 16 to age 17, for example, will save an estimated \$1,530 (discounted over one year), a delay by the same girl to age 18 will save \$7,182 (discounted over two years)—savings of an additional \$5,652 for a second year of delay. The clear implication of this analysis is that program efforts will have the greatest payoff in terms of cost-effectiveness if they are aimed at helping teenagers delay childbearing until they are at least 18 years old and have completed high school (Burt and Levy, Vol. II:Ch. 10).

This type of cost-benefit analysis assumes specific knowledge of a program's effectiveness in postponing pregnancies that would not otherwise have been delayed. If, as is often the case, however, such information is unavailable, a complete estimation of the net benefits (i.e., the dollar value of benefits less program costs) of an intervention is not possible. Burt and Levy (Vol. II:Ch. 10) suggest as an alternative a simpler break-even analysis. Using this latter approach, the benefit of a program is measured by the number or proportion of program participants who must postpone pregnancy (i.e., the amount of output) to offset the costs of the intervention (i.e., the amount of input). In such analysis, the evaluator calculates the value of the output, for example, the savings in public costs, and compares it with the input, for example, the unit costs of providing services. Thus, if a program costs \$500 per participant per year, and the value of postponing an unintended pregnancy for one year for a 17-year-old girl is \$6,049, then the program must result in postponements for 1 out of every 12 17-year-old participants in order to be cost-effective. Using this type of break-even analysis, one can assess whether anticipated program effects are within the range of feasibility for being cost-effective. In many situations, in which an administrator may not know a program's precise effectiveness in postponing pregnancies that would not otherwise have been delayed, such analysis can be helpful in predicting whether possible likely outcomes will make the intervention worth implementing.

The clear message from such analyses is that the effectiveness of prevention programs need not be assumed to be very high in order to justify investment. Although the costs of operating programs to reduce the incidence of pregnancy cover a wide range—from an estimated \$10 per participant per year for sex education courses to an estimated \$125 per participant per year for comprehensive school-based adolescent health clinics—in general these costs are significantly less than the costs to taxpayers that result from nonmarital adolescent childbearing. Most

prevention programs need only demonstrate the delay of a relatively few adolescent pregnancies that lead to births in order to be cost-effective, assuming that they do not have any unintended or undesirable side effects that would outweigh their benefits.

Measuring the unintended effects of prevention programs is difficult, yet critics of such interventions frequently point to their potentially harmful consequences. In particular, attention has focused on the extent to which such programs reduce the actual or perceived risks (costs) of early nonmarital sexual behavior and therefore lead teenagers to engage in it more freely. Sex education programs and contraceptive services are especially vulnerable to charges that they may induce more sexual activity among adolescents than would otherwise occur. Similarly, some critics have expressed concern that more intercourse with contraception may also lead to more intercourse without contraception, which in turn might lead to more unintended and untimely pregnancies than would otherwise occur. Available data suggest that these types of interventions have not inadvertently increased levels of adolescent sexual risk taking, but the available data are admittedly imperfect. In addition to measuring the monetary costs and savings of prevention programs, more attention should be devoted to measuring the unintended and potentially undesirable effects of such programs as well.

## CONCLUSION

Among the three general categories of preventive interventions there are some interesting and innovative program models with the potential for preventing unintended pregnancy. Yet the ability of almost all these programs to demonstrate their impact on teenage fertility is limited. To do this they would need to show the rate of pregnancies prevented as a direct result of intervention; this would require knowledge of the pregnancy rates for adolescent clients before and after intervention or comparative rates for matched control groups. These kinds of outcome measures are difficult to find. With few exceptions, even programs with the specific objective of preventing pregnancy and childbearing cannot directly demonstrate that this goal has been achieved (Dryfoos, 1983). Although several evaluations are currently under way that may yield more information in this regard, there were only three programs among all those the panel examined that actually documented reductions in adolescent pregnancy. First are contraceptive services: greater use of

contraception by teenagers has been shown to reduce the incidence of pregnancy. To the extent that the availability of family planning services encourages teenagers who would not otherwise be sexually active to initiate intercourse, the positive effects of such programs on pregnancy prevention could be overwhelmed. However, there is no available evidence to indicate that availability and access to contraceptive services influences adolescents' decisions to become sexually active, while it does significantly affect their capacity to avoid pregnancy if they are engaging in intercourse.

Second, the St. Paul, Minn., school-based clinic had the specific goal of lowering fertility among its clients and succeeded in doing so. So too did the Self Center in Baltimore, Md. As discussed earlier, however, because the St. Paul program did not collect data on pregnancy, we cannot be sure whether lower fertility rates represent a decrease in the incidence of pregnancy or an increase in the use of abortion services to avert childbearing. The Baltimore program, however, provides powerful evidence of reductions in pregnancies as well as some postponement of initiation of sexual activity for those students with longer exposure to the program.

Third, the Teen Outreach Project in St. Louis, Mo., suggests a reduction in pregnancy. Given the small scale of this project, replication is needed to confirm the results.

With the exception of programs that provide family planning services and several of the comprehensive youth service programs, few of the preventive interventions we examined have pregnancy prevention as a primary goal. Most programs to provide knowledge and influence attitudes and to enhance life options have other primary (direct) objectives yet may also have the potential for preventing pregnancy. In most cases, these programs have not collected the kinds of data necessary to demonstrate their effects on pregnancy or fertility. Several, however, have been successful in meeting their primary (direct) program objectives:

- Sex education programs can effectively provide information concerning reproduction and contraception.
- Family communication programs can help increase the number and frequency of discussions about values and sexual behavior between parents and their children.
- Assertiveness and decision-making training can increase teenagers' problem-solving and communication skills and even increase diligent contraceptive practice.

- Contraceptive services can increase birth control use and improve contraceptive continuation among adolescents.
- Programs to improve school performance can prevent dropping out of school and boost academic achievement.
- Youth employment programs can teach job skills and place teenagers in jobs.

Evidence from the available research on the antecedents of early unintended pregnancy and childbearing suggests that success in achieving these primary objectives may indirectly have positive secondary effects on fertility reduction among adolescents.

Unfortunately, there is little information available on the costs of alternative interventions. While there are data on the unit costs of family planning services (e.g., contraceptive services, school-based clinics, etc.) and some scattered data for other programs (e.g., sex education), we know very little about the costs of other types of preventive interventions. Policy makers, program administrators, and advocates frequently call for information on the costs and benefits of alternative programs, especially those aimed at pregnancy prevention. However, in the absence of adequate measures of costs (i.e., the dollar value of a program's "output") and effectiveness (i.e., the amount of "output" that results from each unit of "input"), cost-benefit analyses of adolescent pregnancy programs are problematic.

As an alternative to traditional estimations of the net benefits of prevention programs, break-even analysis (as described above, the estimation of the number or proportion of program participants who must postpone pregnancy to offset the costs of the intervention) offers an alternative for assessing cost-effectiveness. Cost-effectiveness is typically measured in terms of savings of public costs, including welfare, medical costs, food stamps and related social services, and housing. Estimations of the dollar value of postponing a pregnancy suggest that the greatest savings of public costs will result from postponing a first birth until age 18, if the adolescent girl continues and completes high school. Thus, the greatest payoff in terms of cost-effectiveness of prevention programs can be expected from interventions aimed at helping teenagers delay a first pregnancy and birth until they are past their eighteenth birthday and have received a high school diploma.

## 7

## Interventions for Pregnant and Parenting Adolescents

Like the growth in interventions designed to prevent or delay pregnancy among adolescents, there has also been dramatic growth in the number and variety of interventions designed to assist pregnant and parenting teenagers and their children. And since 1973, there has been an increase in services for women who decide against carrying their pregnancies to term. Programs designed to overcome the negative health, social, and economic consequences of early childbearing have been initiated by the federal government, by states and localities, and by private foundations and philanthropic groups.

This chapter describes interventions of five general types:

- those that provide abortion services;
- those that provide prenatal and perinatal health care services;
- those that provide economic support;
- those that improve the social, emotional, and cognitive development of the children of teenage mothers;
- those that enhance the life options of teenage parents.

The first category, abortion services, provides an alternative to childbearing once a pregnancy has occurred. Programs in the next three categories provide services to pregnant and parenting teenagers to meet their immediate health and subsistence needs and to improve the development of their children. They are intended to directly improve the health and well-being of young mothers (and to a limited extent young fathers) and their children. Programs in the last category are aimed at enhancing adolescents' motivation to become mature and economically self-sufficient indi-

# 9

## Priorities for Policies and Programs

Like many others who have addressed the issues of adolescent pregnancy and childbearing in recent years, the Panel on Adolescent Pregnancy and Childbearing has recognized that the problems are complex and controversial. Solutions will not be easily or rapidly attained. Although the age of initiation and rates of sexual activity are comparable, the United States leads most other developed countries in the rate of early pregnancies, abortions, and births to adolescent mothers. Fertility varies by age, race, and socioeconomic status, but early pregnancy and childbearing are not limited to any single subgroup. They are not confined by urban or rural boundaries, nor is their impact limited to a single gender or generation. Everyone is affected, directly or indirectly. Adolescent pregnancy and childbearing are issues of broad national concern, and they are issues that require urgent attention.

Regardless of one's political philosophy or moral perspective, the basic facts are disturbing: more than 1 million adolescents become pregnant each year. Just over 400,000 teenagers obtain abortions, and nearly 470,000 give birth. The majority of these births are to unmarried mothers, nearly half of whom have not yet reached their eighteenth birthday.

For teenage parents and their children, prospects for a healthy and independent life are significantly reduced. Young mothers, in the absence of adequate nutrition and appropriate prenatal health care, are at a heightened risk of pregnancy complications and poor birth outcomes; they are also more likely to experience a subsequent pregnancy while still in their teens. The infants of teenage mothers also face greater health risks, includ-

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ing low birthweight, accidents, illness, and infant mortality. Teenage marriages, when they occur, are characterized by a high degree of instability. In addition, teenage parents, both female and male, suffer the negative impact that untimely parenting has on their educational attainment and the related limitation of career opportunities. Teenage parents are more likely than those who delay childbearing to experience serious unemployment and inadequate income. Because these young people often fare poorly in the workplace, they and their children are highly likely to become dependent on public assistance and to remain dependent longer. Society's economic burden in sustaining these families is substantial.

Why do young people who are hardly more than children themselves become parents? Is it due to a lack of individual responsibility, maturity, knowledge, and values? Or does it result from the pervasive problems associated with poverty, including limited education and employment opportunities, and among many high-risk youth, growing up in a fatherless family? The answer to both of these questions seems to be yes. The causes of teenage pregnancy are varied and complex, and to a large extent the issues of individual responsibility and social environment are interrelated. For this reason, the panel has studied and addressed the problems with both individual and societal perspectives in mind.

On the basis of two years of review, analysis, and debate, the panel has reached six general conclusions, which underlie all of its specific conclusions and recommendations for policies and programs:

1. Prevention of adolescent pregnancy should have the highest priority. In both human and monetary terms, it is less costly to prevent pregnancy than to cope with its consequences; and it is less expensive to prevent a repeat pregnancy than to treat the compounded problems.

2. Sexually active teenagers, both boys and girls, need the ability to avoid pregnancy and the motivation to do so. Early, regular, and effective contraceptive use results in fewer unintended pregnancies. Delaying the initiation of sexual activity will also reduce the incidence of pregnancy, but we currently know very little about how to effectively discourage unmarried teenagers from initiating intercourse. Most young people do become sexually active during their teenage years. Therefore, making contraceptive methods available and accessible to those who are sexually active and encouraging them to diligently use these methods is the surest strategy for pregnancy prevention.

3. Society must avoid treating adolescent pregnancy as a problem peculiar to teenage girls. Our concept of the high-risk population must

include boys. Their attitudes, motivations, and behavior are as central to the problems as those of their female partners, and they must also be central to the solutions.

4. There is no single approach or quick fix to solving all the problems of early unintended pregnancy and childbearing. We will continue to need a comprehensive array of policies and programs targeted to the special characteristics of communities and to the circumstances of teenagers from different social, cultural, and economic backgrounds and of different ages. Because adolescents are not a monolithic group, they do not all experience sexual activity, pregnancy, and childbearing in the same way. Our broad goal is the same for all young people: that they develop the necessary capabilities to make and carry out responsible decisions about their sexual and fertility behavior. The strategies for achieving these goals and the specific interventions to carry them out, however, should be sensitive to differences in values, attitudes, and experiences among individuals and groups.

5. If trade-offs are to be made in addressing the special needs of one group over another, priority should be given to those for whom the consequences of an early unintended pregnancy and birth are likely to be most severe: young adolescents and those from the most socially and economically disadvantaged backgrounds. In many ways those at highest risk are hardest to serve, yet they are also the groups that have been shown to benefit most.

6. Responsibility for addressing the problems of adolescent pregnancy and childbearing should be shared among individuals, families, voluntary organizations, communities, and governments. In the United States, we place a high priority on ensuring the rights of individuals to hold different values and the rights of families to raise their children according to their own beliefs. Therefore, public policies should affirm the role and responsibility of families to teach human values. Federal and state governments and community institutions should supplement rather than detract from that role.

The prevalence of adolescent pregnancy and childbearing is well documented. Knowledge about the causes and consequences of these behaviors has greatly expanded over the past decade and a half. Knowledge from the growing body of evaluation literature and accumulated intervention experience, though incomplete in many respects, suggests opportunities and directions for policies and programs aimed at solving these problems. In the remainder of this chapter we present specific conclusions and recom-

mendations within a basic framework for establishing policy goals, identifying alternative strategies to achieve these goals, and selecting specific programmatic approaches to carry out these strategies.

#### PRIORITIES FOR POLICIES AND PROGRAMS

The panel's conclusions and recommendations cover a range of activities that includes research, planning, policy development, service delivery, and monitoring. Some of the specific actions we propose would involve steps by federal, state, and local policy makers to enact new legislation or direct the agencies under their jurisdiction to undertake new initiatives. Others would require the continuation or intensification of public and private efforts already under way. When existing knowledge supports new or revised policies and programs or highlights the effectiveness of ongoing initiatives, we propose specific new or continued programs or specific agenda for research and development. When existing knowledge provides insights but is incomplete, we advise further demonstration and evaluation to enhance understanding of the relative costs, effects, and effectiveness of promising approaches. When innovative policies have been initiated but there are as yet no scientifically measurable outcomes, we urge careful observation and monitoring. Many of our recommendations build on policies, programs, and research that are already under way. Many reinforce the priorities of other individuals and groups that are addressing these complex and controversial issues of adolescent pregnancy.

The panel has identified three overarching policy goals, presented in order of priority, that provide a framework for our specific conclusions and recommendations:

1. Reduce the rate and incidence of unintended pregnancy among adolescents, especially among school-age teenagers.
2. Provide alternatives to adolescent childbearing and parenting.
3. Promote positive social, economic, health, and developmental outcomes for adolescent parents and their children.

For most young people in the United States, realizing fulfilling adult work and family roles depends on completing an education and entering the labor force before becoming a parent. Many do delay the initiation of sexual activity until after they have graduated from high school, pursued postsecondary education or gained work experience or both, and perhaps married. Many others become sexually active before they have passed these

milestones in the transition from adolescence to adulthood. Regardless of the timing they choose for initiation of sexual activity, however, all adolescents need the ability and the motivation to avoid becoming parents before they are socially, emotionally, and economically prepared. As a society, our approach to pregnancy prevention must be targeted to the complex social, emotional, and physical needs of all adolescents. Pregnancy prevention strategies must provide teenagers the necessary support and encouragement to strive for fulfilling, productive adult roles in addition to parenthood.

Despite the amount of energy and resources that are devoted to prevention strategies, however, some teenagers will experience unintended and untimely pregnancies. Given the potentially adverse consequences of early parenting for the life chances of these young people, there should be alternatives to childbearing and childrearing. Abortion is a legal option for all women, including adolescents. We acknowledge that voluntary termination of pregnancy is controversial, and for many in our society it is morally reprehensible. Although we strongly prefer prevention of pregnancy to avoid parenthood, abortion is an alternative for teenagers for whom prevention fails. Adoption is also available to those teenagers who choose not to voluntarily terminate their pregnancies yet are unable or unwilling to assume the full responsibilities of parenting.

Finally, for teenagers who choose to bear and to raise their children themselves, supports and services to promote healthy development, responsible parenting, educational attainment, and economic self-sufficiency should be available. Indeed, investing in the quality of life of teenage parents, their families, and their children may be the first step toward preventing early unintended pregnancies in the next generation.

Inherent in this policy framework for addressing the problems of adolescent pregnancy and childbearing is a significant dilemma. In placing the highest priority on prevention, we do not mean to diminish the significant need for supports and services for pregnant and parenting teenagers. Yet, remedial responses, however effective, do not address the basic needs of young people who have not become sexually active and who have not experienced pregnancy. And some have raised concerns that policies and programs that offer support and assistance only after a pregnancy has occurred may even have created the wrong incentives, especially for those from severely disadvantaged backgrounds. All young people, regardless of whether they are teenage parents, need to be encouraged to develop positive perceptions of what their lives can be. They need opportunities to

achieve their goals, and they need support and assistance from their families and their communities to become healthy, productive adult members of society.

*Goal 1: Reduce the Rate and Incidence of Unintended Pregnancy Among Adolescents, Especially Among School-Age Teenagers*

The panel is unequivocal in its conviction that the primary goal of policy makers, professionals, parents, and teenagers should be a reduction in the rate and incidence of unintended pregnancy among adolescents, especially among school-age teenagers. Pregnancy prevention would result not only in fewer births but also in fewer abortions to teenagers. Although an unplanned pregnancy can have seriously negative consequences at age 18 or 19 among those who have completed high school, it is likely to present even greater hurdles for younger teenagers. When pregnancy results in childbearing, it increases the probability that adolescent parents will drop out of school and reduces the probability that they will complete high school or pursue postsecondary education. Early childbearing is also associated with larger family size. For these reasons, younger teenage parents are often vulnerable to an array of adverse social and economic consequences, which we have discussed in detail in this report. In addition, the younger the teenage mother at the time of birth, the higher the average estimated public costs of her childbearing and the higher the estimated potential savings of her postponing that birth.

The panel has identified three general strategies that can lead to a reduction in the rate of early pregnancy: enhance the life options of disadvantaged teenagers, delay the initiation of sexual activity, and encourage contraceptive use by sexually active teenagers. Central to all of them is the need for teenagers themselves to embrace values that lead to responsible, healthy, and productive lives, including the avoidance of unplanned and untimely parenting, and to be steadfast in their belief that they can achieve their goals. Parents and family members can and should play a key role in helping young people, both male and female, acquire and retain these values. But individual and family values are influenced by community and societal norms: therefore, the community as a whole must reinforce and support individual and family efforts to discourage early pregnancy and encourage adult self-sufficiency.

*Enhance Life Options* Poverty and hopelessness, which exacerbate many social problems, play an especially important role in the problems

associated with adolescent pregnancy. Sexual activity and pregnancy among teenagers are not confined by race and income, yet the correlation between poverty and adolescent fertility is well documented. Nationally, more than half of Aid to Families With Dependent Children (AFDC) benefits support families in which the mother gave birth as a teenager. The median income of families headed by women under the age of 25 is below the poverty level, and approximately three-quarters of all such families live in poverty.

Research has shown the deleterious effects of poverty on those caught in its cycle: attitudes of fatalism, powerlessness, alienation, and helplessness that are perpetuated from one generation to the next. For too many high-risk teenagers, there are too few disincentives to early childbearing. Inadequate basic skills, poor employment prospects, and few successful role models for overcoming the overwhelmingly negative odds of intergenerational poverty have stifled the motivation of many to delay immediate gratification and avoid pregnancy.

Teenagers need a reason to believe that parenthood is inappropriate at this point in their lives. Accordingly, one important strategy for reducing early unplanned pregnancy is to enhance their life options, by encouraging them to establish career goals in addition to parenthood and by helping them understand the value of educational attainment and employability skills. This strategy is aimed at reducing adolescent fertility by nurturing the motivation to prevent untimely and unplanned parenthood.

We lack program research that clearly demonstrates the effectiveness of this strategy for reducing early pregnancy. Nevertheless, we outline below several interventions that seem promising and merit further development and evaluation.

Life-planning courses Helping teenagers to understand the seriously negative consequences of an unplanned birth for their present and future lives may be an important component of developing motivation. Life-planning courses are aimed at helping high-risk teenagers identify education, career, and family options, develop life plans and goals, and understand how early childbearing might affect their ability to achieve those goals. Programs of this type have been small-scale, and there is little definitive evidence of their success. Early returns, however, suggest that this may be a promising approach. Intervention models of this type need further development and evaluation. In particular, attention is needed on

the related supports and services that are necessary to help teenagers effectively use the information, planning, and decision-making skills they can gain in life-planning courses.

Programs to improve school performance Boosting school achievement and preventing school dropout may also be a promising approach to reduce early unintended childbearing among school-age teenagers. Teenage pregnancy rates have been shown to be higher among poor achievers. Poor school performance negatively affects self-concept and motivation. It also has adverse effects on later employment opportunities.

As many researchers, service providers, and advocates have observed, educational opportunity and achievement are key to helping high-risk teenagers develop elevated expectations, a sense of can-do, and the basic skills necessary to achieve their goals. Although developing a full agenda of educational reform was not within the mandate or expertise of the panel, we highlight the need for educational interventions—whether alternative schools or special programs in regular schools—to overcome the educational problems and deficiencies of many young people. In particular, such programs need to identify high-risk students early in their educational careers and provide the remediation required to ensure that they develop essential basic skills and achieve smooth education-to-work transitions. Although research has not specifically linked programs to improve school performance with reductions in adolescent pregnancy, such programs merit further development and evaluation to assess their potential effects on fertility.

Employment programs Chronic unemployment and poor job prospects among some subgroups of the population have had serious adverse effects on many young people's perceptions of opportunity. The lack of meaningful employment options may diminish the motivation to delay parenthood. As with educational reform, the development of a comprehensive plan for youth employment is beyond the mandate and expertise of the panel, yet we emphasize the need to enhance the employability of high-risk youth by providing them with information concerning career alternatives, by teaching job skills and job search skills, and by helping them gain work experience while completing their educations. Again, although research has not specifically linked youth employment programs to reductions in adolescent pregnancy, such programs merit fur-

ther development and evaluation to assess their potential effects on fertility.

Role models All young people adopt role models—whether in their families, among their peers, or in their communities—that significantly influence their developing values, attitudes, and behavior. Providing high-risk teenagers with positive examples on which to model their behavior may help them form aspirations, expectations, and activity patterns that match desired norms. Role model and mentoring programs are intended to help teenagers see in others what they can become themselves. Most emphasize the importance of educational attainment, employability, and responsible sexual and fertility behavior. These interventions are relatively new and to date most have been small in scale. As a result, there is no definitive evidence of their success in reducing early unintended pregnancy, yet they merit further examination and trial.

Delay Sexual Initiation A second strategy for reducing the rate of teenage pregnancy is to help teenagers, both male and female, develop ways to postpone sexual initiation until they are capable of making wise and responsible decisions concerning their personal lives and family formation. For young teenagers especially, pregnancy and parenthood are often distant, intangible abstractions. Relating sexual decisions to lifelong consequences is difficult. Adolescents who cannot conceptually link current behavior to future contingencies are often unreliable users of contraceptive methods. For them, efforts directed at discouraging the initiation of sexual activity may be an appropriate means of reducing unintended pregnancy. Essential to the success of this strategy are the acquisition of problem-solving and communication skills, understanding of the personal and societal consequences of unprotected sexual activity, and knowledge of how to act responsibly. Enhancing life options, which has been discussed above, may also encourage teenagers to delay the initiation of sexual activity.

Several interventions have the potential for helping young people delay the initiation of sexual activity, although there is little available evidence at this time to document their effectiveness.

Sex education and family life education Courses that provide information about sexuality and family roles and interactions have been shown to increase students' knowledge of reproduction and the proba-

ble consequences of sexual activity without contraception. Although these courses are widely available in school systems nationwide, they vary substantially in their content, their comprehensiveness, and the quality of instruction. They also vary in the extent of parent and community involvement in their planning and implementation. In addition, few school districts have programs that are directed at children of elementary school age. While knowledge alone cannot be expected to alter adolescent behavior, education programs that are combined with other approaches, such as assertiveness and decision-making training and role modeling, may help reinforce family values, responsible behavior, and self-control with regard to sexual activity. Similarly, age-appropriate education programs that provide young children with information concerning sexuality and sex abuse, as well as training to deal with potentially abusive encounters, may help reduce their anxieties and fears about personal sexual development and improve their ability to avoid sexual exploitation. Unfortunately, program research to date has not provided conclusive evidence of the impact of sex and family life education on the timing of sexual initiation.

**Assertiveness and decision-making training** Programs that teach adolescents problem-solving, decision-making, and interpersonal communication skills are sometimes aimed at promoting sexual abstinence by counseling younger adolescent boys and girls on how to resist pressures to become sexually active before they are ready. An evaluation of one program using this approach is now under way. If the results of that study are positive, replications and adaptations of this program model may be warranted.

**Role models** Many adolescents learn by example; they are attracted to real and fictional characters who seem powerful and successful. Society's response to the behavior of those models helps young people to develop expectations for their own behavior and the behavior of others and to clarify their personal values. When role models exemplify societal ideals, the process can potentially have positive effects on adolescents' attitudes, motivations, and behaviors, including sexual behavior. Several interventions using peer counselors, mentors, and adult community volunteers to work on a one-to-one basis with high-risk teenagers are now being tested. Among the tasks of the role models is to help teenagers find activities other than sexual ones that can fulfill their needs for

emotional gratification, for example, sports and community service. If the results of these efforts show positive effects on delay of sexual initiation, replications and adaptations of this approach may be warranted.

**Media treatment of sexuality** Among the most pervasive influences on adolescents are the personalities and heroes of television, movies, and rock music. The exploitation of sex, aggression, and violence in media programming and advertising has become a central issue for many individuals and groups concerned about adolescent pregnancy and childbearing (e.g., the Children's Defense Fund, the National Urban League, the Center for Population Options, and several state and local coalitions and task forces). Some of these groups are exploring ways to encourage the media to present more realistic and responsible portrayals of personal and sexual relationships among adult heroes and to discourage sexual activity and parenting among young adolescents. Because most of these efforts are in preliminary stages, it is too early to assess their effects on programming content and advertising approaches. Indeed, the incentives for network executives to alter their current messages and models are weak. Nevertheless, multiple coordinated efforts at the community level and at the national level to exert pressure may have greater potential for effecting change than isolated appeals.

**Encourage Contraception** The panel's research has established that the most effective intervention for reducing early unintended pregnancy in sexually active teenagers is diligent contraceptive use. Male contraception, as well as male support for female contraception, is essential. Adolescents who practice contraception are less likely to experience an unplanned pregnancy than those who do not; those who rely on the contraceptive pill are less likely to conceive than those who use nonprescription methods. Although modern contraceptive technology, especially the pill, may have contributed to the liberalization of societal sexual attitudes and practices, which in turn have influenced adolescent behavior, there is no evidence that the availability of contraceptive services per se has caused increased sexual activity among teenagers, male or female. In fact, studies show that many adolescent girls are sexually active a year or more before they obtain contraceptives. This pattern must be changed in order to reduce the incidence of early unintended pregnancy and ultimately the more painful, hazardous, and disruptive

alternatives of abortion or untimely childbearing. The panel recognizes that contraception alone cannot control adolescent fertility, but it is a necessary step.

Given current contraceptive technology, the pill and the condom are the most promising methods for adolescents, whose menstrual cycles may be irregular and whose patterns of sexual activity may be sporadic. For women under age 25 who do not smoke, pill use carries a lower risk of health complications and death than any method except for barrier methods. When used appropriately, the pill has the lowest rate of contraceptive failure next to sterilization. For adolescent girls who smoke, the health risks associated with pill use are somewhat greater but still less than the risks of an unintended pregnancy and childbirth. For girls who smoke and for those who have intercourse infrequently, the condom is the best alternative. The primary health risks associated with condom use are those that result from method failure. Condom failure rates are greater than those associated with pill use, but significantly less than other barrier methods or periodic abstinence.

Despite these facts, adolescents are frequently deterred from use of the contraceptive pill and the condom by misunderstandings about their unintended consequences, including exaggerations of the health risks and unpleasant side effects associated with the pill and of the diminution of pleasure from condom use. Efforts should be made by parents, professionals, and the media to correct these misunderstandings. In addition, contraceptive programs should include or be linked to appropriate health and sex education aimed at teaching adolescents about the risks (including the risks of contraceptive failure) associated with alternative contraceptive methods and how to obtain and appropriately use these methods. Apprehensiveness about the health care system and the diagnostic procedures (e.g., the pelvic examination and invasive laboratory tests) associated with contraceptive services may be a barrier preventing some teenagers from coming to a clinic. Although such procedures have become standard practice, it would be useful to explore nonmedical models for the distribution of contraceptive methods, including the pill.

*The panel concludes that use of the contraceptive pill is the safest and most effective means of birth control for sexually active adolescents. Aggressive public education is needed to dispel myths about the health risks of pill use by girls in this age group, and contraceptive service programs should explore nonmedical models for distribution of the pill.*

The availability of contraceptive services to adolescents depends heavily on public support, in particular funding through Title X of the Public Health Services Act, Medicaid, and other federal and state maternal and child health programs. In light of the demonstrated effectiveness of contraceptive use in reducing early unintended pregnancy, continued support of these programs is essential. To the extent that it is possible, these programs should minimize bureaucratic, geographic, and financial barriers that may deter sexually active adolescents from seeking contraceptive services.

*The panel concludes that, to make this strategy effective, there must be continued public support for contraceptive services to adolescents, such as has been supplied primarily through Title X of the Family Planning Services and Population Research Act, Medicaid, and other federal and state maternal and child health programs. Such programs should minimize potential barriers of cost, convenience, and confidentiality.*

Several interventions have been shown to encourage diligent contraceptive use among sexually active teenagers.

**Sex education** Sex education courses vary in their attention to and treatment of contraception. In several European countries, however, sex education that provides information concerning contraceptive methods, including how to obtain them and how to use them, is associated with earlier and more diligent contraceptive use by adolescents, especially use of the pill.

*The panel urges that sex education programs include information on methods of contraception, how to use them, and how to obtain them.*

**Contraceptive services** There are numerous models for delivering contraceptive services to teenagers, both boys and girls, and services are available from a variety of providers; including public health departments; hospital-, community-, and school-based clinics; private providers; and drugstores. For reasons of cost and confidentiality, teenagers are more likely to seek services from clinic facilities than from private physicians. Several components of the approaches that clinics take to deal with adolescent clients appear to affect the patterns of attendance of sexually active teenagers: (1) aggressive outreach and follow-up, to reach sexually active teenagers who may not have sought contraceptive serv-

ices, through public information programs, sex education programs, and close links to community youth service organizations that can refer young clients; through assistance in getting them to the clinic; and through monitoring their success in using their chosen contraceptive method; (2) instruction about various contraceptive methods, including their risks and benefits, and the consequences of ineffective or inappropriate use; (3) counseling to help teenagers make responsible decisions about contraception and to help them feel they have some commitment to their chosen method; and (4) sensitivity to the special concerns and apprehensions of teenagers in coming to family planning clinics.

In order to encourage contraceptive use among sexually active teenagers with differing needs and predispositions to use contraceptive services, numerous models and approaches should continue to be available and accessible to teenagers from a variety of service providers. Cost should not be a barrier to receiving contraceptive services.

*The panel urges continued support for a variety of contraceptive service models—including private physicians—to reach adolescents. Contraceptive services should be available to all teenagers at low or no cost. Clinic service providers, whether based in hospitals, public health departments, private clinics, or community service organizations, should make efforts to improve the effectiveness of their programs by (1) enhancing their outreach efforts to encourage earlier use of contraceptive methods; (2) exploring more effective counseling approaches to encourage compliance; and (3) enhancing their follow-up of clinic patients to track their contraceptive use.*

Two program models for providing contraceptive services to adolescents are of special interest in this regard. First, school-based clinics that provide teenagers with contraceptive services in the context of comprehensive adolescent health care have the potential to reach a large number of boys and girls under age 18. Most school-age adolescents are enrolled in school, and reproductive health services in this setting may be more accessible to them than those provided by more traditional family planning clinics. Because boys attend school-based clinics for other health care needs, such as athletic physicals, these programs may also hold greater potential for encouraging male involvement in contraception than more traditional female-oriented family planning facilities. In these settings, teenagers are also more accessible to clinic staff for purposes of outreach and follow-up. School-based clinics do have some limitations,

most important that they generally operate on school schedules and that they are typically not open to students who have dropped out or graduated from high school. Nevertheless, they represent a promising intervention for reducing early unintended pregnancy among enrolled students, especially those in junior and senior high schools with large, high-risk populations. Because school-based clinics are still relatively new and experimental interventions, they require careful evaluation to determine their effects and effectiveness, including possible undesirable side effects (e.g., community resistance and increased rates of early sexual activity). Decisions concerning the establishment of school-based clinics should rest with local communities and their school systems.

*The panel concludes that school systems, in cooperation with various health care and youth-serving agencies, should further develop and refine comprehensive school-based clinic models for implementation and evaluation in schools with large, high-risk populations.*

Second, condom distribution programs aimed specifically at young men represent another potentially promising means of encouraging male involvement in pregnancy prevention. As previously discussed, efforts to distribute condoms to sexually active adolescent males and instruct them on proper use can be sponsored by a variety of health and social service organizations. Because they do not require special clinic facilities, these programs can more easily reach out to their target population by establishing distribution centers in the places where teenage boys congregate (e.g., youth centers, gyms, video arcades). In addition, data show that many sexually active adolescent girls, who delay obtaining prescription contraceptive methods after initiating intercourse, frequently rely on male methods in the interim. Consequently, promoting condom use among young men may result in greater use of contraception by teenagers at first intercourse or soon thereafter. Condom use has the added benefit of providing protection against sexually transmitted diseases. There is little program research that has explored the effects and effectiveness of different models for condom distribution among young men in the United States. In light of what is known about patterns of contraceptive use by adolescent boys and girls, however, efforts should be launched to develop and evaluate distribution programs.

*The panel recommends the development, implementation, and evaluation of condom distribution programs.*

**Contraceptive advertising** Historically, television networks and radio stations have been resistant to advertising contraceptive methods. Yet studies of factors affecting attitudes and contraceptive behavior in European countries suggest that contraceptive advertising may be one means of increasing teenagers' awareness of contraceptive methods and making them feel that these methods are accessible. There is no evidence to suggest that advertising alone will directly alter behavior; however, the potential of the media through programming and advertising to influence teenagers' attitudes about desirable models for behavior, including sexuality, is significant.

*The panel concludes that efforts should be undertaken to develop and test the effects on contraceptive use and unintended pregnancy of paid promotional messages for contraceptives that are directed at sexually active adolescents.*

#### *Goal 2: Provide Alternatives to Adolescent Childbearing and Parenting*

The panel believes prevention of pregnancy through abstinence or contraception is far preferable to unintended pregnancy among teenagers. Yet there is little evidence that available prevention strategies significantly influence the timing of sexual initiation, and, although improved use of contraception would definitely reduce the incidence, it would not eliminate teenage pregnancy altogether. It would thus be disingenuous to shrink from consideration of the difficult choices facing the nearly 1 million teenagers who become pregnant each year. The options confronting the unmarried pregnant child or woman are (1) terminating the pregnancy, (2) bearing the child and raising it, and (3) relinquishing the child for adoption. In round numbers, 400,000 girls per year choose abortion, 458,000 keep their babies, and 12,000 choose adoption. The panel has therefore examined each of these alternatives.

**Abortion** In 1973 the Supreme Court made abortion a legal option for all women in the United States. Despite this fact, abortion remains controversial. Its use by adolescents is especially charged, because it raises significant unresolved issues about the appropriate relationship between the rights and interests of an individual adolescent, her family, and the state. Several states in recent years have restricted minors' access to abortion services without parental consent or judicial bypass of parental consent.

Although abortion for very young teenagers remains a special issue, there is no empirical evidence concerning the cognitive capacity of adolescents to make such decisions or the psychological consequences of abortion that would either support or refute such age restrictions. On the basis of existing research, therefore, the contention that adolescents are unlikely or unable to make well-reasoned decisions or that they are especially vulnerable to serious psychological harm as a result of an abortion is not supported. On the contrary, research has shown that for most abortion patients, including adolescents, relief is a frequent reaction.

Nor has research documented that legally required parental involvement helps teenage girls cope better with their choice to terminate the pregnancy. There is no evidence that it reduces the probability of subsequent unwanted pregnancies or serves any other purpose than to ensure that parents are aware of what their adolescent daughters are doing. There is, however, growing evidence that parental consent statutes cause teenagers to delay their abortions, if for no other reason than that they must undergo the de facto waiting period associated with finding a lawyer and gaining access to the courts. These delays may increase the health risks involved if they result in postponements until the second trimester of pregnancy. There is also growing evidence that many adolescents in states with these statutes are traveling to nearby states to obtain services rather than go through the judicial bypass procedure. It is not currently known, however, whether such statutes are causing an increase in unwanted births to teenagers. Research is needed to address these difficult issues.

In addition, no research has been conducted to determine whether "maturity" (the legal standard for granting a judicial bypass to a minor adolescent seeking an abortion without parental consent) can be reliably and validly assessed. In the absence of clear legal standards for maturity, such assessments run the risk of being inconsistently interpreted and applied, as well as being inaccurate. Along with other legal scholars and professional psychologists who have considered this issue, the panel questions whether a "mature minor" standard can be effectively implemented.

The question has been raised of whether the availability of abortion has undermined delay or contraception. While it is true that adolescent girls in the early phase of sexual activity often do not use contraception regularly, we have found no evidence that abortion is used preferentially

to abstinence or contraception as a means of avoiding unwanted childbearing. Repeat abortions do occur among teenagers as well as among adult women. However, concern that the availability of abortion services will lead to higher rates of teenage sexual activity and pregnancy and less reliance on contraception is not supported by the available research. Adolescents who have had abortions are in fact less likely to experience a repeat pregnancy within two years than those who have given birth.

Most abortions occur during the first trimester of pregnancy and therefore carry little risk of medical complications when they are performed by qualified professionals in appropriately equipped settings. Although the health risks are somewhat greater for second trimester abortions, when performed under appropriate conditions these risks are minimized. In general, the health risks associated with an early, legal abortion are no greater for adolescents than for adult women, and they are also less significant than the risks associated with pregnancy and childbirth. Public health experts estimate that the replacement of unintended births and illegal abortions with legal abortions has averted as many as 1,500 pregnancy-related deaths among American women (including teenagers) since 1973 and life-threatening complications in the tens of thousands.

The role of abortion in society's approach to teenage pregnancy is probably the most contentious issue of all. It is impossible to isolate the decision concerning whether to terminate a pregnancy from innumerable political, religious, ethical, and personal considerations, but these are not subject to the kind of scientific inquiry we have made. The panel believes, however, that certain statements about abortion are fully justified by a combination of scientific evidence and general medical principles, and that to avoid the *facts* (as distinct from a *position*) is intellectually unsound.

*The panel urges that at each step along the path from sexual initiation to parenting—regardless of whether one might wish that that step had not been reached—the girl or woman should be treated with the same dignity, confidentiality, kindness, and excellence of health care that are due any patient.*

*The panel concludes that there is at present no scientific basis for restricting the availability of abortion to adolescents. Evidence shows that to require minor teenagers to seek parental consent often causes them to delay abortions, with attendant health risks. On this basis, the panel concludes that minor adolescents*

*should be encouraged, but not required, to involve their parents and partners in the decision-making process.*

*The panel believes there should be no compromise in the medical and personal supportive care of the 400,000 adolescents who have an abortion each year. For those adolescents who choose to terminate their pregnancy, abortion services should include both decision counseling and contraceptive counseling.*

Several interventions can enhance the availability and accessibility of abortion to adolescents.

**Pregnancy testing and counseling** Early confirmation of pregnancy is essential to preserve a young woman's options for its resolution and to minimize the health risks associated with abortion if she decides to terminate her pregnancy. Cost and confidentiality are important factors affecting where and when teenagers go for pregnancy testing. Because many adolescent girls' first visit to a family planning clinic is for pregnancy testing, outreach to encourage them to seek help early may affect the timing of their visit. Pregnancy counseling to outline the available options for pregnancy resolution should also be provided as early as possible. In this regard, adherence to principles of voluntarism and informed consent require that facilities provide their clients, including adolescents, with a full account of the possible risks, benefits, and consequences of maternity, abortion, and adoption as well as the appropriate referral. Teens should be encouraged whenever possible to involve their parents and partners in the decision-making process.

**Abortion services** Abortions are available in hospitals, freestanding abortion clinics (nonprofit and for-profit), and in private physicians' offices. Factors of cost and confidentiality lead most teenagers to clinics for services. Although some clinics refer second-trimester patients to a hospital or private physician, and some have adopted parental consent requirements for minor adolescents, most will serve teenagers on their own authority. Abortion counseling, including helping a young woman explore the factors relevant to an informed decision about the termination of her pregnancy, is important for abortion patients, especially young adolescents. Such counseling is likely to enhance the decision-making process and to minimize the emotional strain. Clinics should also encourage minors to involve their partners and parents in their decisions. Counseling for the parents (or other adult family members) of

adolescent patients is not typically provided by abortion clinics but may be a useful way of enhancing the family's capability to provide emotional support. Contraceptive counseling is also an important component of abortion services to advise patients how soon after the procedure they will be at risk of pregnancy, to provide information on contraceptive methods, and to help patients obtain those methods.

**Adoption** For some teenagers, becoming a parent is not a viable option for pregnancy resolution. For those who lack the resources and motivation to undertake the significant responsibility of raising a child at that point in their lives, alternatives to parenthood are needed. Although adoption seems to have declined in popularity over the past two decades, especially since the nationwide legalization of abortion, the panel recognizes that the development or strengthening of adoption services is needed for those who choose to relinquish their children. As we have noted elsewhere in this report, research on the adoption decision-making process, as well as on the characteristics and special needs of pregnant adolescents who make adoption plans, is missing. Obviously, such research is a first necessary step to improving the quality of relevant services or developing new ones.

*The panel recommends that relevant public agencies, in cooperation with the private sector, explore ways of strengthening adoption services, including (1) improved decision counseling for pregnant teenagers and (2) development of effective models for providing comprehensive care to pregnant girls who choose adoption as an alternative to parenthood.*

Two existing interventions are especially relevant as components of strategies to support adoption as a viable option to parenthood.

**Pregnancy counseling and referral** Teenagers who experience an unintended pregnancy should receive objective, nonjudgmental counseling to inform them of all their options for pregnancy resolution and the associated risks and benefits of each—abortion, parenthood, and adoption. Such counseling should also include decision counseling to help pregnant girls explore their reasons for choosing one course of action over another. Pregnancy counseling can play an important role in teenagers' decisions concerning pregnancy resolution and their later satisfac-

tion with those decisions. Pregnant teenagers should be encouraged to involve their partners and parents in the decision-making process.

**Adoption services** For those who elect to carry their pregnancies to term and relinquish their infants for adoption, services should meet the range of physical health care needs and psychological and social supports that these young women need during their pregnancy, during labor and delivery, and after their infants are born and have been placed with adoptive families. Although research on adoption is limited, it does suggest that these services are often fragmented and poorly coordinated and that they frequently focus on the prenatal period but overlook the young woman's need for support and assistance following delivery.

### *Goal 3: Promote Positive Social, Economic, Health, and Developmental Outcomes for Adolescent Parents and Their Children*

Childbearing among school-age adolescents will never be entirely eliminated. The birth rate for teenagers and the number of children born to young mothers have declined over the past decade and a half, and they are projected to continue to decline into the 1990s. Aggressive and committed prevention approaches may further reduce adolescent childbearing. Even so, some teenagers experience unplanned pregnancies and become parents. Many of those who do are at serious risk of health and nutritional deficiencies, single parenthood, unemployment, poverty, and long-term economic dependence. Their children will have a higher probability of physical, social, and cognitive problems and deficiencies. Although parenting teenagers represent a small proportion of the overall adolescent population, their problems and needs entail high public costs.

Accordingly, a third important goal is to promote positive outcomes for adolescent parents and their children. Several strategies can potentially contribute to the achievement of this goal. Central to all of them is the recognition that teenage parents are not just young mothers: teenage fathers must also be a target for policies and programs, as must the families of pregnant and parenting adolescents.

**Promote Healthy Birth Outcomes and Support the Physical Health of Young Mothers and Their Babies** Expectant mothers who receive early and regular prenatal care that is appropriate to their level of risk are significantly more likely to have healthy birth outcomes than those who do

not. Those who obtain regular preventive health care for themselves and their children are likely to develop more positive health behaviors and their children are more likely to avoid or overcome many of the most difficult child health problems. Although it is possible, given current knowledge and technology, to prevent or ameliorate many maternal and child health problems, many teenagers and their children do not receive essential health care services. In some cases these services are not accessible to them; in many cases they are available but underutilized. Information, outreach, and follow-up are essential aspects of maternal and child health services for adolescents.

*The panel recommends continued support for the provision of appropriate health and nutrition services, including prenatal, labor, and delivery care for pregnant adolescents and regular and emergency pediatric care for the children of teenage mothers, through Medicaid; the Early and Periodic Screening, Diagnosis and Treatment Program; and other federal and state maternal and child health programs. Bureaucratic barriers that prevent teenagers from receiving early, regular, and appropriate care for themselves and their children should be minimized.*

Several interventions can promote healthy birth outcomes and can help support the physical health of young mothers and their babies.

**Prenatal, labor, and delivery care** Early and regular prenatal care significantly reduces the likelihood of pregnancy complications, labor and delivery complications, and maternal morbidity. It also reduces the likelihood that young mothers will deliver premature and low birthweight babies. Although prenatal care services are widely available from public health departments, hospitals, freestanding clinics, school-based clinics, youth service agencies, and private physicians, adolescents are less likely than older mothers to obtain early—or any—prenatal care.

Because of their long-term health benefits, prenatal care services must be available and accessible to all pregnant adolescents. They should begin as early as possible in pregnancy, and they should continue through labor and delivery and during the immediate postpartum period. There should be appropriate linkage between prenatal and delivery care providers so that relevant information about a patient's health status and health history are available at the time of delivery.

Pregnant teenagers rely heavily on federal programs to pay for their prenatal, labor, and delivery care, including support from Medicaid, the

Early and Periodic Screening, Diagnosis and Treatment Program, and other maternal and child health programs. Bureaucratic problems involved in adolescents' applying for subsidized services and establishing their eligibility, especially Medicaid eligibility, have been shown to affect the timing of prenatal care for many pregnant teenagers and may even deter some from seeking any care at all. Such barriers should be minimized.

Program research suggests that two components of service delivery are essential to help pregnant teenagers receive adequate prenatal care beginning in the first trimester of pregnancy. These include pregnancy testing and counseling services as soon as pregnancy is suspected, and information and health education to inform teenagers of the importance of preventive health care and avoidance of health hazards (e.g., smoking) during pregnancy. In addition, the provision of health care services at or in proximity to the school has been shown to enhance school-age teenagers' access to and use of prenatal care. The introduction of comprehensive health clinics in many schools represents a positive step toward strengthening prenatal care services for pregnant students. In the limited evaluation studies that are available, these facilities have demonstrated their effectiveness in increasing the likelihood that pregnant teenagers will initiate care in the first trimester and will be monitored regularly throughout their pregnancy, in accordance with standards set forth by the American College of Obstetricians and Gynecologists. Nevertheless, prenatal care, labor, and delivery services should continue to be available to teenagers in a variety of settings, since many high-risk expectant mothers are not enrolled in school.

**Nutrition services** The dietary habits of many adolescents and low-income individuals are poor. During pregnancy and when breastfeeding, nutrition needs are especially critical, and many young mothers suffer from anemia and vitamin deficiencies. The problems of malnourishment include complications in pregnancy and childbirth and low birthweight. In young children, nutritional deficits can delay physical development, increase susceptibility to disease, and negatively affect learning. The Supplemental Food Program for Women, Infants and Children (WIC) provides iron-rich and protein-rich food supplements to low-income pregnant women and mothers and children under age five. It has been shown to reduce the incidence of problems associated

with malnourishment. It has also been shown to serve as a means of recruiting high-risk pregnant women into prenatal care.

**Pediatric care** Well-baby care, as well as emergency care, has been shown to improve the physical health of all children, especially those at serious risk of perinatal dysfunction. As with prenatal care, information and health education can help young mothers and fathers understand the importance of well-baby care and positive health behaviors for their children's long-term development and well-being.

Pediatric care programs and well-baby clinics are available to teenage parents through public health departments, hospitals, freestanding community clinics, and school-based clinics. These programs involve a variety of service delivery models, including clinic services, home visits, and the integration of other necessary services, such as nutrition services, contraceptive services, and education and career counseling. Most teenage parents who seek publicly subsidized services rely on federal programs to pay for those services, among them Medicaid, the Early and Periodic Screening, Diagnosis and Treatment Program, and to some extent other maternal and child health programs. There is some evidence that eligibility standards and application procedures in some states may discourage needy parents from seeking well-baby and emergency care for their children. These bureaucratic barriers should be minimized.

**Prevent Subsequent Untimely and Unintended Births** An untimely and unintended birth tends to have seriously negative social and economic consequences for young mothers, young fathers, and their children. A second untimely and unintended birth is likely to compound the already complex and overwhelming problems. Many adolescents who give birth experience repeat pregnancies within two years. Although most adolescent parents report that they did not intend to become pregnant again so quickly, most did not take effective steps to prevent conception. Contraceptive diligence requires a significant degree of commitment. Many teenage girls are easily dissuaded from regular contraceptive use by boyfriends, by problems in using their chosen method, or by information (often inaccurate) about possible negative side effects. Adolescents who have experienced childbearing are no different. Helping them to prevent subsequent untimely and unintended births requires that their family planning needs receive special attention and emphasis.

Several interventions have the potential for preventing subsequent untimely and unintended births to adolescent parents.

**Contraceptive services** The use of contraception reduces the probability of pregnancy. Getting adolescent mothers and fathers to practice contraception regularly can substantially lower the likelihood of a repeat pregnancy and birth. Several aspects of service delivery to this target population are important: aggressive outreach and follow-up to reach parenting teenagers as soon as possible after delivery, assistance in getting them to clinics, and close monitoring of their success or difficulty in using their chosen method; directive advice on contraceptive practice; easy access to convenient, low-cost (or no cost) contraceptive services; and intensive individualized care. Low-key approaches to contraceptive use in several comprehensive pregnancy care programs have been shown to be insufficient. Learning to contracept successfully is difficult for many adult women. For teenagers who lack experience, confidence in their social relationships, and the ability to plan ahead, it is even more difficult. For many parenting teenagers who cannot foresee other viable life options than motherhood, a forceful and consistent message about the risks of subsequent pregnancy and the importance of contraception are essential. While contraceptive services alone cannot control subsequent fertility among teenage parents, they are a necessary first step.

*The panel concludes that contraceptive services should be available and accessible to adolescent parents at low or no cost. Because of the special needs of this high-risk population, service providers should strengthen their programs by (1) enhancing their outreach efforts to encourage early use of contraceptive methods; (2) developing intensive individualized counseling and care techniques to encourage compliance; and (3) enhancing their follow-up procedures to track contraceptive use.*

**Abortion services** For those who experience repeat pregnancies and feel unable to cope with the compounded difficulties of raising more than one child, abortion is an option for pregnancy resolution.

**Ensure the Economic Well-being of the Teenage Family** For teenage parents, especially those under age 18 and those without a high school diploma, who have not yet developed the ability to support themselves, economic well-being is a major concern. Adequate income support is a

necessary precondition to school completion and to promoting the health and well-being of young mothers and their children. Severe poverty increases the likelihood of poor health, inadequate nutrition, personal frustration, and early economic dependence.

Ensuring the economic security of teenage families until they are able to become self-sufficient is an essential strategy to achieving the larger goal of promoting positive outcomes for these young parents and their children and should involve partners, families, and the community. Two interventions are especially relevant.

Child support enforcement Fathers should be involved in the financial support of their children. Teenage fathers, who may not have completed school and who are employed only part-time or who are unemployed, are unlikely to be able to make a significant contribution to the support of their children while they are still in their teens. For this reason, young fathers have not typically been actively pursued by the state for child support. However, there has been renewed interest in enforcing child support by fathers of children born to teenage mothers, both to provide additional financial assistance to young mothers and as a means to increase young men's sense of parental responsibility. Indeed, parents are obligated to provide support until their children reach age 18, and even if the father's current level of financial assistance is low, his contribution may increase over time and have long-term positive effects on his children.

There is little existing research or program experience to guide new policies in this area. However, further efforts should be made to explore the effects and effectiveness (short-term and long-term) of child support enforcement among teenage fathers. As a first step, young men should be educated about their child support obligations. In addition, efforts should be made to link child support to education and work requirements in the form of (1) registration with the state employment service and (2) participation in job training and job search activities as well as work opportunities. At a time when an increasing number of states are adopting "workfare" programs for welfare mothers (including the mothers of very young children), it is appropriate to consider similar public jobs programs for the fathers of young children who cannot otherwise find work and provide support for their families.

The families of adolescent parents should also be encouraged to assume responsibility for the support and obligations of their minor chil-

dren, including the children of teenagers under 18. Research suggests that adolescent mothers, especially school-age girls, who remain in their parents' home and receive support and assistance from their families, fare better in the short term than those who establish independent households. In turn, the children of young mothers benefit from this support and assistance. Program experience in this area is extremely limited, although several states, most notably Wisconsin, have recently enacted statutes requiring grandparent support for the children of adolescent mothers. While it can be assumed that enforcing grandparents' liability will increase the financial resources to teenage parents and their children, there are no data to show whether such provisions will serve the larger purpose of strengthening family bonds and stimulating emotionally supportive parental involvement, or will have less desirable effects.

Aid to Families With Dependent Children Public assistance for adolescent mothers and their children represents an important source of economic security when husbands or partners and families are unable to meet the necessary level of financial support. The availability of AFDC and related food stamp and Medicaid benefits has raised controversy over the extent to which it encourages young women to become parents before they are able to become economically self-sufficient. Although there is no evidence that AFDC benefits encourage young women to become sexually active or to become pregnant, there is some evidence that they may influence decisions concerning living arrangements of pregnant and parenting teenagers. The 1984 Deficit Reduction Act amendments to the Social Security Act established that teenage parents eligible for AFDC and living with their parents must be included in a household grant. Minor mothers living apart from their families, however, are eligible to receive benefits on their own. This regulation may constitute an incentive for a teenage mother to establish independent living arrangements, thereby undermining her family's obligation and ability to provide financial and emotional support. To the extent that 1984 legislative changes governing AFDC eligibility deny income and Medicaid benefits to young mothers and their children if they remain in the parental home, these provisions should be carefully reviewed. Irrespective of federal action governing AFDC eligibility, the states should explore policy options to allow adolescent parents under age 18 to remain in their families of origin whenever possible until they have completed high school (or the equivalent), until they are able to become

economically self-sufficient, or both. There is little research evidence to support policies in this area. One possibility, however, is to link the receipt of AFDC benefits by teenage mothers to remaining in their parents' home, except under conditions that pose a physical or emotional hazard to the adolescent or her baby.

*Enhance Life Options for Adolescent Parents* Efforts to improve maternal and child health outcomes, to improve developmental outcomes among the children of adolescent parents, and to prevent subsequent pregnancy may have little positive effect until teenagers can be persuaded to "invest in their own futures." Both the motivation and the means are essential to overcoming the likely negative consequences of early childbearing. Although many teenage mothers (and fathers) report aspirations that are very similar to those of their peers who delay childbearing—a nice home, a good job, and a loving spouse—they frequently have difficulty envisioning in concrete terms how to make their dreams attainable. Therefore, a fourth important strategy for improving social, economic, and health outcomes for adolescent parents and their children is to enhance their life opportunities.

Several approaches appear to be especially promising:

Life management training Life planning assistance is important to help teenage parents, both male and female, establish education, career, and family formation goals for themselves and to identify pathways to achieving these goals that take account of their parenting responsibilities. Similarly, life skills training to help them learn how to manage their everyday lives independently are important to success in pursuing their chosen work and family goals. Teenage parents need to have realistic dreams of what they can be, in addition to being a parent, and an understanding of how to fulfill those dreams, one step at a time. Research conclusively demonstrating the impact of life management training on the economic self-sufficiency, marital stability, and parenting skills of teenage parents is not available, and efforts to develop and test model programs of this type are needed.

Educational support and remediation The detrimental effect of early childbearing on educational attainment has been clearly demonstrated. Most teenagers who become mothers before they graduate do not finish high school. Similarly, many adolescent fathers who assume parenting

responsibilities often find it difficult to complete their education. The relationship between school performance, school attendance, and adolescent childbearing is complex. Many teenagers who become parents are at risk of dropping out of high school or have left school before they became pregnant. Parenthood for these young people may represent a more positive immediate experience than education. For those who have consistently failed in the classroom, there is understandably little incentive to return. Yet adolescent parents must be made to recognize that finishing school is essential to fulfilling their other aspirations for home, family, and work. In some cases, regular classrooms and mainstream educational programs may not be appropriate. Many of these young people need intensive remedial education and self-paced instruction to be successful. Alternative school programs, including high school equivalency courses, represent one option; others may include home instruction or TV instruction to meet the special needs of these high-risk students.

*Accordingly, the panel urges that a broad array of special education programs and services for pregnant and parenting teenagers be developed and implemented to assist these young people in completing their education.*

Employment programs Regardless of the availability of child support, older pregnant and parenting teenagers (18- and 19-year-olds) need employment services that provide job training and assist in job placement. Those under age 18 need services that emphasize the importance of completing high school, while enhancing their later employability and transition from school to work. Younger teenagers may benefit from information concerning career alternatives and job requirements, job readiness and job search skills, and temporary or part-time work experience. As with employment programs that are aimed at prevention, those serving pregnant and parenting teenagers need to take into account the related service needs of these young people, including child care, transportation, counseling, etc., which can significantly affect their participation and outcomes. Many existing youth employment programs have excluded teenage parents because of their special needs.

In this regard, the problems of adolescent fathers require special attention. Employment opportunities are so inadequate and earnings are so low for many young men, especially minorities, who have been reared in poverty and who lack education, job training, and work experience,

One intervention in particular has the potential for furthering this strategy.

**Parenting education** Parenting education has been shown to improve young parents' knowledge of children's patterns of growth and development and appropriate child care, as well as to help them learn techniques for stimulating infant response and development. Such programs should be available to teenage parents, both male and female, and should be sensitive, not only to the developmental requirements of infants and toddlers, but to the developmental maturity and capabilities of the young parents. Teenagers who have not grown up in supportive, enriching families may have little positive basis for modeling their own parenting behavior.

*The panel urges that parenting education for teenage parents, especially those from severely disadvantaged backgrounds, receive special attention and emphasis. Schools and other community organizations should place high priority on the development, implementation, and evaluation of these programs.*

## CONCLUSION

As we stated at the beginning of this chapter, the panel's framework for policy and program development is organized around three fundamental goals: the first is reduction of adolescent pregnancy; the second is provision of alternatives to adolescent childbearing and parenting; the third is promotion of positive outcomes for adolescent parents and their children. For each of these goals, several strategies and specific intervention approaches have been presented. It is important to recognize that none of these interventions alone can solve the complex problems of adolescent pregnancy and childbearing; nor can any single strategy address the special needs and characteristics of all youth at risk of untimely and unintended pregnancy and birth. In presenting several strategies for achieving each of these goals, we have tried to take account of the diversity of the adolescent population—of their different values, different social, economic, and cultural backgrounds, different ages and stages of development, different communities and support systems, and different dreams for the future. The strategies toward each goal are interdependent. They are not mutually exclusive. Providing young people with

the ability to avoid pregnancy and childbearing or to cope with early unplanned parenthood and helping them develop the will and the willingness to do so are both important. Neither alone is sufficient.

As we have stressed throughout this report, there are no easy answers or quick fixes. Those seeking simple new solutions will find there is really very little that is new or simple. Any efforts to alleviate the problems of adolescent pregnancy and childbearing will ultimately require a sustained, coordinated commitment by policy makers, service providers, parents, and teenagers themselves. Everyone can be touched by the problems; everyone can—indeed, must—contribute to the solution.

The problems of adolescent pregnancy and childbearing are solidly rooted in many of the forces and principles that shape our society—individualism, family autonomy, and free enterprise. As a nation, we have no coherent policy in this area because we have no unitary view of these issues or approach to addressing them, and because we have been unable to define an appropriate public role in decisions regarding the initiation of sexual activity, contraception, pregnancy resolution, and parenting. This ambiguity and disagreement will not be easily resolved. Nor should it. We are a diverse society of individuals, families, and communities with differing values, traditions, and cultures. In short, the panel believes that a number of actions should continue to be taken simultaneously. They must involve government at all levels as well as the private sector, including business and labor, religious groups, special interests, and the media. Some represent immediate steps that can yield short-term results; others will require a longer-term investment of time and resources.

This report represents one step in a continuing, incremental process. As a scientific group, we have strived to clarify the issues, sharpen awareness of crucial decision points, and bring knowledge to bear on the trade-offs and complementarities among different political and ideological positions. Perhaps our most important contribution is to inform the continuing debate concerning this salient and often divisive issue of the limits of scientific understanding.

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## A Meta-Analysis of Research on Adolescent Contraceptive Use

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Meta-analysis was used to summarize the results of 134 studies on adolescent contraceptive use in relation to two major explanatory models, the career model and the decision model. There was evidence in support of both models, although there has been less research conducted on variables related to the decision model. The major variables found to affect young women's contraceptive use were partner influence to use contraception, acceptance of one's sexuality, future orientation, positive attitudes toward contraception, an exclusive sexual relationship, and frequency of intercourse. The major variables affecting young men's contraceptive use were partner influence, frequency of intercourse, and positive attitudes toward contraception; however, there was relatively little research on young men compared to young women. A number of possible future directions for research are noted.

Surveys conducted by the Alan Guttmacher Institute (1976, 1981; Jones et al., 1985) have found that about 1 million American teenagers become pregnant each year. Most of these young women are unmarried and their pregnancies are unintended. About one-fifth of these pregnancies re-

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sult in births (Klerman & Jekel, 1978), which can be followed by such negative adaptive consequences as the disruption of educational and vocational plans (Baizerman, Sheehan, Ellison, & Schlessinger, 1971), hasty marriages followed by quick divorce (Semmens, 1970), and social rejection (Black & DeBlasie, 1985). These tragedies are compounded by the fact that a contraceptive technology exists which, if effectively applied, could come close to eliminating the problem. Why, then, is contraception not used by teenagers who do not actively desire to become parents?

In order to answer this question we conducted a meta-analysis (Gleason, McGaw, & Smith, 1981; Hedges & Becker, in press; Hunter, Schmidt, & Jackson, 1982; Rosenthal, 1978) of the research on factors associated with adolescent contraceptive use. We found that this research could be organized in the context of two explanatory models, the career model and the decision model. We also noted a number of methodological problems in the research on adolescent contraceptive use and gaps in the research which need to be filled. Our approach in this article, then, is to review briefly the models of adolescent contraceptive use, to review the research related to those models (using meta-analysis where appropriate), to point out some of the methodological issues, and to suggest some directions for future research.

### *The Career Model*

The concept of career is borrowed from the sociology of occupations and describes a sequence of movements by an individual from one position to another in a system (Boldt & Latif, 1977). In a contraceptive career, a person (a woman in most of the models which have been proposed) moves through several stages in her use of contraceptive techniques; the force commonly proposed as the motivator for movement from one stage to the next is an increase in the woman's acceptance of her sexuality (Chilman, 1983; Lindemann, 1974, 1977; Miller, 1976; Rains, 1971).

Lindemann (1974, 1977) provides an example of a career model. She proposes that a contraceptive career consists of three stages. In the earliest "natural" stage, sexual intercourse is relatively rare and unplanned, and the woman does not perceive herself as a sexual being, so she either does not use contraception or does not take responsibility for it. The second "pre-prescription" stage is characterized by more frequent sexual activity accompanied by at most a moderate acceptance of sexuality. As a result, the woman is reluctant to seek contraceptive advice outside her most intimate friendship circle. Although this peer advice does lead to the use of some contraceptive techniques, these are often the less effective methods or those which do not require pre-planning, and misinformation is common. In the

final "expert" stage, the woman has incorporated sexuality into her self-concept and so is more willing to use contraceptive methods which require pre-planning and to seek professional contraceptive advice.

In sum, the career models view contraceptive use as a symbol of a woman's sexuality in that it implies a clear intent on her part to be sexually active. Nonuse of contraception implies that sexual activity is unintentional and thus helps to reduce any guilt resulting from violation of sexual norms. As the woman comes to accept her own sexuality, nonuse of contraception becomes less needed as a method of guilt reduction and contraceptive use increases. Cvetkovich, Grote, Bjorseth, and Sarkassian (1975) have applied a similar model to all adolescents rather than just women. However, Adler (1981) and Scales (1977) suggest that a model based on the progressively increasing acceptance of one's sexuality is less appropriate to men because the male sex role implies continuous acceptance of sexuality.

### *The Decision Model*

The basis of the decision model of contraceptive use is subjective expected utility (SEU) theory. SEU theory holds that people weight the costs and benefits of the expected outcomes of various courses of action open to them by the perceived probability of the outcomes and select the course which will maximize benefits and minimize costs. Although this process can be conscious, it usually is not, and costs and benefits can be material, social, or psychological in nature. In the case of a sexual encounter, if the expected benefits of contraception outweigh its expected costs then contraception will be used; if the reverse is true, then it will not (Luker, 1975, 1977). SEU models have been found to be useful in predicting contraceptive behavior among adults (see review by Adler, 1979) and sexual activity in adolescents (Baumann & Udry, 1981). DeLamater (1983), Nathanson and Becker (1983), Rogel, Zuehlke, Petersen, Tobin-Richards, and Shelton (1980), and Strahle (1983) have suggested that SEU theory is also applicable to predicting adolescent contraceptive use, but no direct tests of the model's ability to explain adolescents' contraceptive behavior have been made.

Fishbein (1972; Fishbein & Jaccard, 1973) has elaborated the original SEU model by explicitly considering the effects of the social norms which facilitate or inhibit a behavior and the motivation to comply with these norms. According to this view, any behavior has associated with it positive (facilitative) or negative (inhibiting) normative expectations which a person weights by his or her motivation to comply. The resulting subjective norm is combined with the results of the analysis of the other outcomes of the available courses of action to decide which course to follow. Thus, a cost-benefit

analysis of nonsocial factors which results in an outcome favoring contraception could be offset by a negative subjective norm. This elaborated model works well with adults (Adler, 1980; Cohen, Severy, & Ahtola, 1978; Davidson & Jaccard, 1975; Jaccard & Davidson, 1972), and has recently received some support in research with adolescents (Fisher, 1984; McCammon, 1982).

A further elaboration of the SEU model focuses on the information system which supports the cost-benefit and normative analyses (Byrne, 1984; Schinke, Gilchrist, & Small, 1979; Urberg, 1982). These analyses are based on information which can be more or less valid and which is affected by acquisition, storage, and retrieval processes. The information system approach deals with how these factors affect the contraception decision and also considers the problems involved in implementing the decision (e.g., the availability of resources). Little research has been conducted using this approach, however.

### *Relation of Career and Decision Models*

It is clear that the career and decision models are complementary rather than competing, although their complementarity is rarely remarked upon. The career model focuses on the longitudinal process of becoming a contraceptive user while the decision model focuses on the factors affecting the decision to use contraception at any one point in time. The constructs of the two models can even be expected to affect one another. For example, the psychological costs of contraceptive use would be expected to decrease and its perceived benefits to increase, with growing acceptance of one's sexuality. Conversely, the positive or negative results of the contraceptive decision can affect one's sexual self-acceptance (Abramson, 1983). Thus, a comprehensive model of the contraceptive process would combine the two theoretical approaches and account for both change over time and stability at one point in time.

### *Research on the Models*

Despite the existence of the career and decision models, relatively little research has been directed at testing them. Rather, research on adolescent contraception has tended to be atheoretical and directed at describing the characteristics which differentiate contraceptive users from nonusers. Nonetheless, this body of research has included a large number of variables related to the models. Because of the atheoretical nature of most of the research, the "fit" between the empirical variables and the conceptual variables used in the models is sometimes less than perfect. However, the pa-

rallels between the empirical constructs and those used in the models are close enough to review the research in the context of the models and to point to needed directions for future research.

## METHOD

### *Meta-Analysis*

Meta-analysis is a method of statistically combining the results of independent studies and using inferential statistics to aid in the evaluation of a body of research literature (Glass et al., 1981; Hedges & Becker, in press; Hunter et al., 1982; Rosenthal, 1978). Meta-analysis is thus a quantitative evaluation of a set of related empirical studies that integrates the results of their statistical analyses, as opposed to the traditional literature review that uses qualitative techniques to integrate a body of research. Meta-analysis therefore has both the advantage of statistical precision and the consequent limitation of being unable to handle qualitative data (Cook & Leviton, 1980). It has, however, been judged to be superior to traditional literature reviews for integrating the results of quantitative studies (Cooper & Rosenthal, 1980; Hedges & Olkin, 1980) such as the majority of those considered in the present analysis.

### *Selection of Studies*

The research reviewed here was located through searches of *Psychological Abstracts*, *Sociological Abstracts*, the ERIC index, and the card catalogs of two university and one psychiatric library using "birth control" and "contraception" as key index terms. In addition, the reference lists of works found using this strategy were searched for additional sources. To be included in this review a study had to meet the following criteria: (a) its subjects were adolescents (including college students), (b) the study assessed the actual use of contraception, not merely attitudes toward or intentions relating to contraceptive use, and (c) contraceptive users or pregnant adolescents (if this was the study's operational definition of nonuse of contraception) were compared with sexually active peers rather than a randomly selected group which could include both sexually active and inactive respondents.

### *Procedure*

The studies located provided three types of data: narrative descriptions of results without statistical analysis, statistical analyses relating one or more predictor variables to contraceptive use, and percentages of respondents

endorsing various reasons for not using contraception. In the Results section, references to studies which provided only narrative results are included with those studies supplying statistical data. Although the reasons given by respondents for their nonuse of contraception do not provide information directly relevant to the career and decision models, these reasons do provide insight into the respondents' perceptions of the causes of their behavior, and so are summarized here.

For studies which reported statistical analyses, the reported statistics were converted to correlation coefficients using the formulas provided by Glass et al. (1981). This conversion provided a common measure of effect size for studies using different statistical methods. Mean correlations were computed by applying Fisher's  $z'$  transformation to each correlation coefficient, weighting each  $z'$  by its sample size, summing the weighted values, and dividing that sum by the sum of the sample sizes. The mean  $z'$  was then transformed to  $r$ . The significance of the mean  $z'$  was determined using the method described by Hedges and Becker (in press) for calculating Z scores for mean effect sizes. It should be noted that most mean correlations are based on very large combined sample sizes so that even rather small values can attain statistical significance. As a rule of thumb guide to practical significance, Cohen (1977) suggests the following values for  $r$ : less than .10, insignificant; .10 to .23, small; .24 to .36, moderate; greater than .36, large.

Percentage data were combined by multiplying the proportion of respondents endorsing a reason in a study by the study's sample size, summing these products, and dividing that sum by the total number of respondents. There is no appropriate statistical test for these data. However, Cohen's (1977) rule of thumb for the practical significance of percentages is: less than 5%, insignificant; 5% to 14%, small; 15% to 24%, moderate; greater than 24%, large.

## Results

### Characteristics of the Studies

A total of 134 studies were located which met the criteria described above. The majority of the studies (89%) compared contraceptive users and nonusers on one or more characteristics, and 23% elicited reasons for the nonuse of contraception. Table 1 contains a breakdown of the studies by sex and age group (high school or college) of the respondents. The majority of the studies (64%) used only female subjects, and college students were the most studied age group (59%). Not surprisingly then, college-age women were the most studied group (57%), followed by high-school-age women (19%) and college-age men (25%).

TABLE 1

Distribution of Studies by Sex and Age Group of Respondent

|  | Sex    | Age Group   |      |         |      |      |      |     |       |
|--|--------|-------------|------|---------|------|------|------|-----|-------|
|  |        | High School |      | College |      | Both |      |     |       |
|  |        | n           | %    | n       | %    | n    | %    |     |       |
|  | Male   | 5           | 3.7  | 2       | 1.5  | 1    | 0.7  | 8   | 6.0   |
|  | Female | 41          | 30.7 | 32      | 23.9 | 13   | 9.7  | 86  | 64.2  |
|  | Both   | 9           | 6.7  | 28      | 20.9 | 3    | 2.2  | 40  | 29.8  |
|  |        | 55          | 41.0 | 62      | 46.3 | 17   | 12.7 | 134 | 100.0 |

### Measurement Issues

*Operational definition of contraception.* A major problem attendant on a review of the literature on adolescent contraceptive use is that of measurement, especially the operational definition of terms (Herold, 1981; Mindick & Oskamp, 1979). Although contraceptive use might at first glance appear to be a strictly behavioral variable with little room for definitional ambiguity, "contraception" has been defined in a number of different ways in the literature. For example, it is common to ask respondents the method of contraception that they last used or usually use, and then to code the response by one of the following characteristics: the theoretical or actual effectiveness of the method, by whether or not the method requires a prescription, or simply by the use of any method as opposed to no method.

The difficulties incurred by asking for the method last or usually used are that the last use may have been the only use and that even the method usually used might be used only rarely. Some investigators therefore ascertain the consistency of contraceptive use, either completely subjectively (e.g., on a scale from always to never) or with an estimate of the percentage of sexual encounters within a certain time period in which contraception was used. Since consistency by itself ignores effectiveness, a scale combining the two is sometimes used, roughly equating consistent use of an unreliable method with sporadic use of a reliable method (e.g., Herold, 1981).

Contraceptive use is sometimes measured in terms of compliance with a contraceptive regimen prescribed by a family planning clinic, with comparisons being made between compliers and noncompliers. There are two major problems with this definition. The first is the self-selection of the subjects: to be included in the study one must attend a clinic at least once. Thus, even noncompliers had at least some intention of using contraceptives, whereas women who never intended to use contraception are not in-

uded in the studies. The second problem is that noncompliance is often defined as failure to return for a clinic appointment, and nonreturn could be used by a number of factors other than abandonment of contraception.

Finally, unintended pregnancy is sometimes used as a measure of contraceptive nonuse. The difficulty in such cases is, of course, that one never knows the actual reason for the pregnancy: failure to use any contraception, failure of an unreliable method, or failure of a generally reliable method. Note that if the pregnancy had not happened to have occurred, the women who experienced a contraceptive failure would have been classified as contraceptive users. Two additional problems are sometimes associated with using unintended pregnancy as a measure of contraceptive nonuse. As Lindick and Oskamp (1979) point out, many studies using this operational definition are simply assessments of the characteristics of the pregnant group without reference to a comparison group, or there is no attempt to insure that the comparison group is sexually active. Second, when a sexually active control is used, no distinction may be made between those using contraception and those not.

Another aspect of the problem of how contraceptive use is to be defined is that of whether personal or couple use of contraception is assessed. That is, most studies ask if contraception was used by either party in a relationship rather than if the respondent personally used it. For studies on women this may be a relatively unimportant point since most contraceptive technology is woman-oriented. However, the distinction is crucial for studies of male contraceptive use—the investigator must know whether it is the respondent's contraceptive use that is being assessed or his partner's. Fox (1977) and Weiser (1981), for example, found correlations on the order of .10 between sex of respondent and couple use of contraception, suggesting little sex difference, but correlations on the order of .25 for personal use, indicating greater female use of contraception. Most studies, however, do not make this distinction, so the results reported below for men must be interpreted with caution. The personal/couple use distinction is also important when using the results of research to evaluate the models of contraceptive use. For example, for the career model, if a woman's partner uses contraception without any action on her part, one would not expect contraceptive use to be related to her sexual self-acceptance. Similarly, if one's partner uses contraception, one need not make a personal contraceptive decision.

The magnitude of the problem presented by the differing operational definitions of contraception is a function of the methods used in the studies being compared. Herold (1981) correlated six operational definitions of contraception and found a mean correlation of .75; however, the correlations ranged from .37 (medical versus nonmedical with use versus nonuse) to .92 (actual effectiveness with a method-consistency combination). In addition to varying in their intercorrelations, these different definitions can

have different correlations with the same predictor variable. Herold (1981), for example, found that with 19 predictor variables, the number of significant correlations for the six definitions ranged from 3 to 14 and that the multiple correlations ranged from .28 to .66. When pregnancy avoidance is used as a definition of contraceptive use, the situation can be worse. For example, as shown by our findings to be discussed in more detail below, studies have found that respondents' sexual experience had a mean correlation of  $-.15$  with pregnancy avoidance, but  $.14$  with various measures of contraceptive use.

One last problem remains to be noted. Even when two investigators agree on an operational definition at a conceptual level, they may not agree in practice. For example, although both Fox (1977) and Thompson and Spanier (1978) used effective versus ineffective contraception as their operational definition, Fox classified foam, condom, and diaphragm as ineffective methods, whereas Thompson and Spanier classified them as effective. The problem is, of course, that effectiveness is a continuum and attempts to dichotomize it can lead to contradictions.

*Operational definitions of predictor variables.* Just as operational definitions of contraception differ, so do those of the factors hypothesized to predict the use of contraception. For example, the relationship of the respondents to their partners is hypothesized to be an important factor in contraceptive use. But is "relationship" to be defined as type (e.g., casual dating, steady dating, engaged), exclusivity, duration, or intimacy? All have been used, with mean correlations with contraceptive use (discussed below) ranging from .12 (duration) to .24 (exclusivity). The specificity of the question asked can also make a difference. The amount of communication between the partners concerning sex and contraception, for example, has a mean correlation of .14 with contraceptive use, whereas the amount of influence from the partner to use contraception has a mean correlation of .35.

*Conclusions.* The lesson to be drawn from this discussion is that a reviewer of the literature on adolescent contraceptive use is faced by a rather large degree of variance in studies' findings caused by the use of a variety of operational definitions. For the purpose of this review, all operational definitions of contraceptive use and the predictor variables were considered to be equally valid; however, when the use of different definitions resulted in strikingly different findings, their results are reported separately. To conserve space, the studies included in the meta-analysis are referred to by numbers, which are keyed to the list of studies in the Appendix.

### *Variables Related to the Career Model*

The results of the meta-analysis of the variables related to the career model are summarized in Tables 2 and 3. Table 2 shows the mean correla-

TABLE 2

Mean Correlations of Variables Related to the Career Model with Adolescent Contraceptive Use

| Variable                          | Women     |                      | Men       |                      |
|-----------------------------------|-----------|----------------------|-----------|----------------------|
|                                   | Mean<br>r | Number of<br>Studies | Mean<br>r | Number of<br>Studies |
| Sexual self-acceptance            | .21***    | 20                   | .13**     | 7                    |
| Sex role traditionality           | -.15***   | 6                    | .03       | 5                    |
| Acceptance of responsibility      | .13**     | 1                    | .00       | 1                    |
| Planned intercourse               | .22***    | 4                    | .06       | 4                    |
| Sexual experience                 |           |                      |           |                      |
| with use of contraception         | .14***    | 8                    | -.02      | 4                    |
| with pregnancy avoidance          | -.15***   | 3                    | -.34***   | 1                    |
| with compliance in clinics        | -.41***   | 2                    | —         | 0                    |
| Frequency of intercourse          | .21***    | 22                   | .28***    | 6                    |
| Age of Respondent                 | .19***    | 27                   | .14***    | 12                   |
| Internal locus of control         | .08***    | 16                   | .05       | 5                    |
| Self-esteem                       | .13***    | 11                   | .04       | 9                    |
| Future orientation                | .26***    | 10                   | .31       | 1                    |
| Moral development                 | .06       | 2                    | .06       | 1                    |
| Relationship with partner (total) | .16***    | 24                   | .15***    | 13                   |
| Type                              | .14***    | 6                    | .13*      | 3                    |
| Intimacy                          | .13***    | 9                    | .15***    | 8                    |
| Exclusivity                       | .24***    | 5                    | .10       | 2                    |
| Duration                          | .12**     | 8                    | .08       | 3                    |
| Social support (total)            | .18***    | 17                   | .03       | 4                    |
| General                           | .24***    | 3                    | —         | 0                    |
| Parents                           | .16***    | 7                    | .05       | 1                    |
| Peers                             | .20***    | 10                   | .01       | 3                    |
| Partner support                   |           |                      |           |                      |
| Communication                     | .14***    | 10                   | .28***    | 4                    |
| Influence                         | .35***    | 7                    | .51***    | 3                    |

\* $p < .01$ . \*\* $p < .001$ . \*\*\* $p < .0001$ .

tions for studies reporting statistical analyses and Table 3 shows the overall percentages of respondents giving various reasons for the nonuse of contraception.

**Sexual self-acceptance.** Acceptance of one's own sexuality is central to the career model of contraceptive use. Studies support the model, finding mean  $r$ s of .21,  $p < .0001$ , for women and .13,  $p < .0001$ , for men (5, 10, 11, 12, 21, 22, 30, 31, 43, 44, 45, 47, 50, 57, 59, 61, 74, 89, 90, 101, 105, 108, 118, 121).

TABLE 3

Percentage of Respondents Endorsing Reasons for Nonuse of Contraception Related to the Career Model

| Reason                          | Women |                      | Men  |                      |
|---------------------------------|-------|----------------------|------|----------------------|
|                                 | %     | Number of<br>Studies | %    | Number of<br>Studies |
| Use implies intentional sex     | 8.0   | 6                    | 8.5  | 2                    |
| Felt guilty about contraception | 15.0  | 1                    | —    | 0                    |
| Embarrassed to seek it out      | 9.4   | 7                    | 8.3  | 4                    |
| Partner is responsible          | 8.1   | 5                    | 8.4  | 3                    |
| Unplanned intercourse           | 36.9  | 12                   | 40.7 | 5                    |
| Infrequent intercourse          | 17.5  | 3                    | —    | 0                    |
| Impression management           | 9.9   | 3                    | 11.0 | 1                    |
| Parental reaction               | 28.9  | 5                    | —    | 0                    |
| Disapproval by partner          | 6.6   | 8                    | 4.0  | 1                    |

Adler (1981) and Scales (1977) have proposed that sexual self-acceptance (and therefore contraceptive use) is negatively related to sex role traditionality for women, and there was a mean  $r$  of  $-.15$ ,  $p < .0001$ , between women's contraceptive use and sex role traditionality (23, 34, 35, 36, 55, 84, 122). One study (115) found a large positive correlation (.64) using an interview to ascertain traditionality. There was a mean  $r$  of .03,  $ns$ , for men (23, 33, 34, 55, 84).

The reasons given for the nonuse of contraception also reflect the importance of role self-acceptance. Some adolescents may believe that sex is wrong and that the use of contraception implies intentional wrong-doing; so less guilt accrues if contraception is not used. Overall, 8% of women and 8.5% of men gave this as their reason for not using contraception (47, 71, 72, 93, 94, 102, 117, 124). This reason is given more frequently by younger women—12.7% (47, 72)—than by older women—4.8% (71, 94, 124). Fifteen percent of one study's (59) female respondents said they felt guilty about the use of contraception. In addition, 9.4% of women and 8.3% of men reported that they did not use contraception because they were too embarrassed to seek it out (3, 6, 17, 23, 47, 52, 59, 93, 94, 124).

**Responsibility for contraception.** In the career model, increasing acceptance of the sexual self implies increasing acceptance of responsibility for contraception. Overall, 8.1% of women and 8.4% of men said that they did not use contraception because they thought that it was their partner's responsibility (6, 17, 53, 59, 94, 117). Similarly, one study (48) found a correlation of .13 between young women's acceptance of responsibility for con-

contraception and their use of it; however, another study (14) found an  $r$  of .00 for men.

**Planned intercourse.** In the career model, as sexual self-acceptance increases, sexual activity becomes more planful. One of the reasons most commonly cited by both women, 36.9%, and men, 40.7%, for the nonuse of contraception was that intercourse was unplanned (6, 17, 53, 60, 62, 77, 81, 83, 87, 94, 98, 107, 117, 124, 130). Four studies (6, 65, 109, 134) found mean correlations between the degree to which intercourse was planned and the use of contraception of .21,  $p < .0001$ , for women and .06, *ns*, for men.

**Sexual experience.** The career model holds that sexual role self-acceptance, and therefore contraceptive use, increases with sexual experience. For women, sexual experience has a positive mean correlation with contraceptive use,  $r = .14$ ,  $p < .0001$ , (22, 36, 42, 61, 64, 67, 86, 109), but negative mean correlations with pregnancy avoidance,  $r = -.15$ ,  $p < .0001$ , (11, 86, 97) and compliance in contraception clinic samples,  $r = .41$ ,  $p < .0001$  (25, 78). There is a mean correlation of  $-.02$ , *ns*, between men's sexual experience and their contraceptive use (22, 64, 86, 109), and one study (86) found a correlation of  $-.34$ ,  $p < .0001$ , with pregnancy avoidance. Similarly, current frequency of intercourse correlates positively with contraception for both women, mean  $r = .21$ ,  $p < .0001$ , and men, mean  $r = .28$ ,  $p < .0001$  (2, 11, 18, 19, 22, 25, 31, 32, 33, 37, 39, 41, 42, 43, 51, 61, 63, 67, 73, 78, 83, 99, 104, 109, 117, 120, 128). In addition, 17.5% of women cited infrequent intercourse as a reason for nonuse of contraception (23, 26, 48, 130).

**Age of respondent.** According to the career model, contraceptive use should increase with age. Consistent with the model, older adolescents, both males, mean  $r = .14$ ,  $p < .0001$ , and females, mean  $r = .19$ ,  $p < .0001$ , use contraception more often than younger men and women (3, 8, 14, 19, 20, 29, 32, 33, 41, 48, 49, 50, 56, 63, 64, 68, 78, 86, 91, 94, 96, 97, 99, 108, 111, 117, 119, 127, 128, 129, 133, 134). Age can also interact with other variables. One study (74), for example, found a larger correlation between parental support and contraceptive use in 15 and 16 year olds, .56, than in 17 and 18 year olds, .20.

**Personality variables.** The career model postulates that contraceptive use increases with acceptance of one's sexuality. Personality variables associated with other forms of self-acceptance and self-efficacy have also been related to contraceptive use. It has been suggested, for example, that as adolescents' feelings of control over their lives and environments increase, so does their use of contraception. A small mean correlation of .08,  $p < .0001$ , has been found between contraceptive use and internal locus of control in women; there is a mean correlation of .05, *ns*, between locus of control and

contraception in men (9, 11, 35, 51, 54, 60, 75, 76, 79, 80, 86, 96, 97, 108, 118, 119, 124).

Self-esteem is another indication of self-acceptance and self-efficacy, and has a mean correlation of .13,  $p < .0001$ , with contraceptive use for women. As with locus of control, the correlation for men, .04, was not significant (12, 22, 23, 43, 55, 60, 64, 79, 86, 87, 105, 115, 124).

Future orientation—the degree to which a person makes plans for the future—can be taken as another indicator of self-efficacy. Women who use contraception tend to have a longer future orientation than women who do not, mean  $r = .26$ ,  $p < .0001$  (8, 47, 48, 50, 54, 67, 87, 88, 96, 97, 98, 110, 113, 118). The correlation for men was .31, *ns* (50).

Moral development—the degree to which a person's ethical decisions reflect an independent evaluation of the issue (Kohlberg, 1969)—has also been investigated in relation to the use of contraception. However, the two studies which included this variable (27, 70) failed to find a relationship for either women or men, mean  $r = .06$ , *ns*, for both sexes.

**Relationship between sexual partners.** In the career model, increased intimacy between sexual partners leads to increased sexual self-acceptance. Empirically, the nature of the relationship has a significant mean correlation with contraceptive use for both women and men, mean  $r = .16$ ,  $p < .0001$ , for women, and mean  $r = .15$ ,  $p < .0001$ , for men. However, "nature" has been operationally defined in terms of type (e.g., casual dating, steady dating, engaged), intimacy, exclusivity, and duration. For women the mean  $r$  for type is .14,  $p < .0001$  (38, 39, 41, 83, 86, 105, 117); for intimacy, .13,  $p < .0001$  (2, 22, 24, 31, 32, 33, 41, 50, 64, 65, 81, 99, 120, 127); for exclusivity, .24,  $p < .0001$  (22, 47, 61, 104, 120); and for duration, .12,  $p < .001$  (11, 16, 18, 21, 32, 67, 96, 109). For men, the mean correlations are type, .13,  $p < .001$  (15, 38, 86); intimacy, .15,  $p < .0001$  (22, 33, 43, 50, 65, 81, 120, 127); exclusivity, .10, *ns* (22, 120); and duration, .08, *ns* (22, 34, 109).

Early in the contraceptive career, before sexual self-acceptance is achieved, nonuse of contraception may be employed as a means of controlling the sexual relationship (DeLamater & MacCorquodale, 1979; Miller, 1976). Along this line, one study (69) found a correlation of .20 between women's feelings of control in the relationship and the use of contraception. Nonuse of contraception might also serve as a means of impression management, at least in the early stages of a sexual relationship, and especially in the case of individuals early in their sexual careers. Overall, 9.9% of women and 11% of men said that they did not use contraception because they did not want it to look as though intercourse had been planned (6, 17, 24, 59).

**Social support for contraceptive use.** As discussed earlier, the ca-

career model emphasizes the importance of social support in shaping contraceptive use. Consistent with the model, social support has a mean correlation with reported contraceptive use of .18,  $p < .0001$ , for women; however, the mean correlation for men, .03, is not significant. Being more specific, for women, generalized measures of social support have a mean  $r$  of .24,  $p < .0001$  (31, 82, 96); support from parents (usually the mother), .16,  $p < .0001$  (13, 16, 39, 41, 61, 68, 74, 112, 124); and support from peers, .20,  $p < .0001$  (23, 42, 51, 61, 64, 68, 69, 74, 102, 112, 120, 122). For men, support from peers has a mean  $r$  of .01, *ns* (23, 64, 120), and one study (124) found a correlation of .05 between parental support and males' use of contraception.

Overall, 28.9% of women report an expected negative parental reaction as their reason for nonuse of contraception (48, 59, 77, 117, 126). Consistent with the career model, one study (117) found this reason to be more prevalent among 13 to 15 year olds—17%—than 16 to 19 year olds—8%. Another study (4) found that 15% of its male sample reported that they used condoms because their friends did so.

*Partner support.* A special case of social support for contraception is support from one's partner. For women, there is a relation between discussion of sex and contraception with one's partner and contraceptive use, mean  $r = .14$ ,  $p < .0001$  (12, 18, 22, 48, 51, 65, 67, 69, 96, 100). The mean  $r$  for men was .28,  $p < .0001$  (12, 22, 65, 100). Influence or encouragement from one's partner to use contraception has a large mean correlation for both women, .35,  $p < .0001$ , and men, .51,  $p < .0001$  (1, 5, 19, 50, 51, 61, 74, 120, 122).

Similarly, 6.6% of women cite disapproval by their partners as a reason for nonuse of contraception (47, 48, 59, 93, 117, 124, 131), as did 4% of the men in one study (124). Another study (117) found this reason to be more prevalent among 13 to 15 year old women—15%—than 16 to 19 year olds—6%. Conversely, 5% of the male respondents in a third study (4) said that they used condoms because their partners wanted them to do so.

*Summary.* The career model receives good support for women and less support for men (see Table 2). The major variable in the career model is sexual self-acceptance, which had a positive mean correlation with contraceptive use for both women and men. Variables which the career model related to sexual self-acceptance, such as sexual planning and frequency of intercourse are also positively related to contraceptive use by women. Similarly, variables associated with increasing psychological maturity are related to contraceptive use by women: age, self-esteem, and future orientation. Rejection of traditional sex roles was also a significant factor. Finally, social variables which Abramson (1983) associates with increased sexual self-acceptance are related to women's contraceptive use: an exclusive relation-

ship with and support from one's sexual partner and social support from significant others. Fewer variables were related to male contraceptive use: frequency of intercourse and partner support had the highest correlations. It is thus possible, as Adler (1981) and Scales (1977) have suggested, that the career model is less applicable to young men than to young women.

### *Variables Related to the Decision Model*

The results of the meta-analysis of the variables related to the decision model are shown in Tables 4 and 5. Table 4 shows the mean correlations for the studies reporting statistical analyses, and Table 5 shows the overall percentages of respondents giving various reasons for the nonuse of contraception.

*Knowledge of sex and contraception.* Because a good decision requires a good information base, one would expect knowledge of sex and contraception to be related to contraceptive use. Objective tests of knowledge have a mean correlation with contraceptive use of .17,  $p < .0001$ , for both women and men (10, 12, 13, 32, 34, 36, 43, 46, 47, 50, 74, 76, 85, 92, 96, 97, 108, 114, 133). Subjective knowledge, in the form of women's perceived risk of pregnancy, has a mean correlation of .25,  $p < .0001$  (18, 46, 51, 82, 96).

Overall, 32.1% of the women who do not use contraception say that they fail to do so because they think that they cannot become pregnant (further reasons not specified) (23, 47, 93, 103, 117). In addition, 31.1% of women and 29.9% of men said that they did not use contraception because they only had intercourse during the "safe" period of the woman's menstrual cycle (6, 17, 24, 59, 81, 83, 94, 113, 131). Also, 5% of the women in one study (131) said that they thought that they were too young to become pregnant.

Finally, 6.4% of women and 6.2% of men claim a lack of contraceptive information as their reason for nonuse (6, 17, 53, 59, 94, 103). Lack of information is given as a reason more often by younger women—14%—than older women—5%—(117).

*Attitudes toward contraceptive use.* In the decision model, a major factor affecting contraception is the person's attitude toward contraceptive use. Generally, a positive attitude leads to greater use by both women, mean  $r = .28$ ,  $p < .0001$ , and men, mean  $r = .32$ ,  $p < .0001$  (1, 30, 31, 36, 46, 50, 56, 58, 61, 64, 74, 82, 96, 99, 114, 125). This attitudinal effect is reflected in the primarily negative attributes associated with contraception in the reasons given for the nonuse of contraception. Negative side effects were cited by 17.2% of women and 2% of men (23, 48, 52, 61, 71, 107, 117, 124). Overall, 11.5% of women and 24.6% of men say that contracep-

TABLE 4

Mean Correlations of Variables Related to the Decision Model with Adolescent Contraceptive Use

| Variable                           | Women         |                   | Men           |                   |
|------------------------------------|---------------|-------------------|---------------|-------------------|
|                                    | Mean <i>r</i> | Number of Studies | Mean <i>r</i> | Number of Studies |
| Knowledge of sex and contraception | .17***        | 17                | .17***        | 8                 |
| Perceived risk of pregnancy        | .25***        | 5                 | —             | 0                 |
| Attitude toward contraception      | .28***        | 14                | .32***        | 7                 |
| Conservatism                       | -.21***       | 4                 | -.27***       | 3                 |
| Social support (total)             | .18***        | 17                | .03           | 4                 |
| Partner influence                  | .35***        | 7                 | .51***        | 3                 |
| Problem-solving ability            | .32*          | 1                 | —             | 0                 |
| Risk taking                        | .04           | 2                 | —             | 0                 |
| Desire to avoid pregnancy          | .11*          | 3                 | .19           | 1                 |
| Previous pregnancy                 | .22***        | 8                 | -.11*         | 2                 |
| Sex of respondent (women > men)    |               |                   |               |                   |
| with couple use                    | .08***        | 20                |               |                   |
| with personal use                  | .28***        | 5                 |               |                   |
| Race of respondent (white > black) |               |                   |               |                   |
| with contraceptive use             | .07***        | 14                | .11**         | 3                 |
| with pregnancy avoidance           | .15***        | 7                 | .13***        | 3                 |
| Living arrangements                |               |                   |               |                   |
| with parents vs away               | -.17***       | 2                 | -.22*         | 1                 |
| with one vs both parents           | -.11***       | 4                 | -.03          | 1                 |

\* $p < .05$ . \*\* $p < .001$ . \*\*\* $p < .0001$ .

tion is "too much trouble" to use (3, 6, 17, 26, 47, 71, 72, 94, 117, 124). Reduction of sexual spontaneity was cited by 15.9% of women and 32.2% of men (6, 17, 48, 61, 81, 93, 95, 117), and one study (96) found that nonusers rated sexual spontaneity as more important than did users,  $r = .13$ . Another study (23) reported that some (percentage not reported) of its male respondents said that contraceptive use interfered with their sexual pleasure. Positive beliefs also play a role: 45% of one male sample (4) said that they used condoms because they prevented venereal disease. In more general terms, a recent study (74) found a correlation of .27 between the perceived benefits of contraception and contraceptive use, and a correlation of  $-.14$  with perceived costs.

General measures of conservatism, which should be negatively correlated with positive attitudes toward contraception, correlate negatively with contraceptive use for both women, mean  $r = -.21$ ,  $p < .0001$ , and men,

TABLE 5

Percentage of Respondents Endorsing Reasons for Nonuse of Contraception Related to the Decision Model

| Reason                            | Women |                   | Men  |                   |
|-----------------------------------|-------|-------------------|------|-------------------|
|                                   | %     | Number of Studies | %    | Number of Studies |
| Denial that pregnancy is possible | 32.1  | 4                 | —    | 0                 |
| Intercourse during "safe" period  | 31.1  | 8                 | 29.9 | 3                 |
| Too young for pregnancy           | 5.3   | 1                 | —    | 0                 |
| Lack of information               | 6.4   | 6                 | 6.2  | 3                 |
| Negative side effects             | 17.2  | 5                 | 2.0  | 1                 |
| Too much trouble to use           | 11.5  | 10                | 24.6 | 4                 |
| Reduced spontaneity of sex        | 15.9  | 7                 | 32.2 | 3                 |
| Opposition in principle           | 4.9   | 10                | 2.6  | 4                 |
| Parental reaction                 | 28.9  | 5                 | —    | 0                 |
| Disapproval by partner            | 6.6   | 8                 | 4.0  | 1                 |
| Did not think about pregnancy     | 26.0  | 1                 | —    | 0                 |
| Pregnancy wanted                  |       |                   |      |                   |
| Respondent pregnant               | 18.2  | 4                 | —    | 0                 |
| Respondent not pregnant           | 1.2   | 2                 | 0.0  | 1                 |
| Pregnancy acceptable              |       |                   |      |                   |
| Respondent pregnant               | 17.5  | 2                 | —    | 0                 |
| Respondent not pregnant           | 3.8   | 2                 | —    | 0                 |
| "Don't care" if pregnancy results | 4.3   | 2                 | 13.8 | 1                 |
| Perceived nonavailability         | 21.3  | 4                 | 5.8  | 1                 |
| High cost                         | 7.5   | 3                 | —    | 0                 |
| Don't know where to get           | 14.8  | 9                 | 7.1  | 3                 |

mean  $r = -.27$ ,  $p < .0001$  (34, 43, 48, 66, 79, 84). Opposition in principle is cited as a reason for the nonuse of contraception by 4.9% of women and 2.6% of men (6, 17, 47, 53, 59, 83, 93, 94, 117, 124). This reason is cited more frequently by younger women—14%—than older—2% (47, 117). The availability of abortion as an alternative to contraception has been mentioned by Luker (1975, 1977), Miller (1976), and Sorenson (1973) as a possible reason for the nonuse of contraception, but one study (32) found no relation between willingness to seek abortion and use of contraception.

*Social and partner support.* As in the career model, social and partner support are important factors in the decision model. In the decision model, these factors influence the person's subjective norm concerning contraceptive use. Therefore, the significant correlations of support with contraceptive use reported in the discussion of the factors relating to the career model also support the decision model.

*Problem solving ability.* Sexual problem solving should be related to general problem solving ability. One study (119) found that woman contraceptive users generated more and better solutions to hypothetical interpersonal problems than did nonusers,  $r = .32$ ,  $p = .01$ . Luker (1975, 1977) proposed that nonusers are more likely to take risks than users, but the correlation between making risky hypothetical decisions and contraceptive use is .04, *ns* (19, 101). The results of one survey (59) suggest that thoughtlessness rather than risk-taking might be a better way of viewing the situation: 26% of the female respondents said that they "did not really think about becoming pregnant" before unprotected intercourse.

*Motivational variables.* An important factor in the decision model of contraceptive use is the person's motivation to comply with social norms. If a non-normative outcome (such as pregnancy) is desired, the motivation to avoid pregnancy is low. Thus, it has been suggested that contraception is used because pregnancy is either wanted or acceptable (Miller, 1976; Vogel et al., 1980). Surveys have found that 18.2% of unmarried pregnant adolescents give desire for pregnancy as their reason for not using contraception (21, 47, 52, 72, 93) and that 17.5% say that their pregnancy is acceptable (26, 103, 113). However, only 3.4% of nonpregnant nonusers give acceptability of pregnancy as a reason for not using contraception (83, 103), and only 1.2% say that they want to be pregnant (59, 124). Still, 4.3% of female and 13.8% of male nonusers say that they "don't care" if pregnancy results from unprotected intercourse (59, 124). Rather surprisingly, gender-related measures of motivation to avoid pregnancy correlate only .11,  $p = .5$ , with women's contraceptive use (48, 52, 74). However, since most unmarried women desire to avoid pregnancy (59, 83, 124), the low correlation may have been due to restriction in the range of responses. On the opposite side, 40% of one male sample (4) said that they used condoms for contraceptive purposes. Interestingly, some young women (percentage not reported) believe that if they have unprotected intercourse for some time without becoming pregnant, they cannot become pregnant and therefore don't consider using contraception (77).

The mean correlation between a woman's having once been unintentionally pregnant and her subsequent use of contraception is .22,  $p < .0001$  (6, 40, 73, 83, 99, 110, 130). Men who have once caused an unintended pregnancy, however, tend not to use contraception, mean  $r = -.11$ ,  $p = .05$  (56, 86).

*Sex of respondent.* Because women are more affected by pregnancy than are men, the disutility of an unwanted pregnancy should be greater for women, leading to a higher rate of contraceptive use under the decision model. Women do report greater contraceptive use than men, but most studies find rather small correlations, mean  $r = .08$ ,  $p < .0001$  (7, 23, 27,

35, 43, 48, 50, 53, 64, 95, 99, 114, 117, 120, 123, 124, 127, 134). However, these studies ask whether either person used contraception, thus perhaps artifactually increasing the number of positive male responses. When the emphasis is on personal use, the mean correlation is increased to .28,  $p < .0001$  (7, 35, 43, 121, 124).

*Race of respondent.* There is some evidence that the social costs of unwed pregnancy are lower for blacks than for whites (e.g., Washington, 1982), implying that contraceptive use should be higher among whites. However, studies have found only a small, but consistent, mean correlation of .07,  $p < .0001$ , between race and contraceptive use for women (28, 36, 41, 42, 67, 73, 74, 78, 112, 127, 129, 133, 134) and a mean  $r$  of .11,  $p < .001$ , for men (29, 127, 134). However, the mean  $r$  increases to .15,  $p < .0001$ , for women when pregnancy avoidance is used as the dependent variable (47, 96, 97, 06, 119, 128, 132); one study (106) found a correlation of .13,  $p < .0001$ , between race and pregnancy avoidance for men. Race can also interact with other variables: one study (74) found a stronger correlation between contraceptive knowledge and use for whites,  $r = .49$ , than for blacks,  $r = .02$ .

*Perceived availability of contraception.* An important factor in a decision is its feasibility: if a person believes that contraception cannot be implemented, it will not be used. Thus, both men and women cite the non-availability of contraception as a reason for its nonuse. This reason was cited without elaboration by 21.3% of women and 5.8% of men (47, 52, 83, 94, 113), and one study (74) found a correlation of .27 between perceived availability of contraception and its use. Cost was cited as a factor in nonuse by 7.5% of women (48, 71, 117), and in one study nonusers rated the cost of a contraceptive clinic as higher than did users,  $r = .17$  (96). Cost might be a relative factor: it was cited more often by 13 to 15 year old women—25%—than by 16 to 19 year olds—13% (117). Finally, 14.8% of women and 7.1% of men said that they did not know where to go to obtain contraception (6, 17, 48, 53, 59, 94, 103, 117). Again, this reason was more prevalent among 13 to 15 year old women—32%—than 16 to 19 year olds—9% (117). It should be noted that although contraceptive technology is generally considered to be widely available, there are, in fact, both formal and informal barriers to its acquisition by young people (Allgier, 1983; Gemme, 1977).

*Living arrangements.* Living with one's parents imposes costs on the use of contraception in terms of the possibility of one's sexual activity being discovered and negatively sanctioned. Thus, it has been found that both men,  $r = .22$ ,  $p = .03$  (63), and women, mean  $r = .17$ ,  $p < .0001$  (63, 73), who live away from their families use contraception more often than do those who live at home. Young women who live with just one parent are

less likely to use contraception than those who live with both parents, mean  $r = -.11$ ,  $p < .0001$  (37, 67, 91, 106). For men, the correlation was  $-.03$ , ns (106).

*Summary.* The decision model received good support for women, but less support for men. A prerequisite for decision making is the perception of a need to make a decision. Thus women's contraceptive use is positively related to the perceived risk of pregnancy. A good information base, in the form of sexual and contraceptive knowledge, also promotes contraceptive use. Further, positive attitudes toward contraception, which reflect lower perceived costs and greater perceived benefits associated with contraception, are positively related to its use for women. In addition, a positive subjective norm, reflected in partner and social support, is predictive of women's use of contraception. Finally, low conservatism, good problem solving skills, and previous unintended pregnancy were also related to women's contraceptive use. Motivation to avoid pregnancy had only a low correlation with contraceptive use, which could be the result of the small number of unmarried women who do not desire to avoid pregnancy. For men, fewer variables were significantly related to contraceptive use: knowledge, attitudes, and partner support were the most important factors. Not surprisingly, women use contraception more than do men.

## DISCUSSION

It appears from the research reviewed above that contraceptive use—at least by young women—is a function of three general factors. The first factor is a critical level of psychosexual maturity at which the young woman accepts herself as a sexual being, is comfortable with her sexually active role, and sees herself as responsible for contraception, if she does not want to become pregnant. The achievement of the critical level of maturity is itself a complex function of physical and emotional maturation, social norms, parental standards, and sexual experience (Abramson, 1983).

The second factor is the decision making process. As postulated by the decision model, young women weigh the advantages and disadvantages of contraception as they see them against the risk of pregnancy and its consequences. This process is constrained by the quality and amount of information they have concerning reproduction and contraception (which can vary as a function of career stage) and by the opinions of their social support networks (which also affect progress through the contraceptive career). In addition, pregnancy risk is not the only cost factor affecting the use of contraception. Even if contraception is evaluated as desirable in relation to pregnancy, it still might not be used for a number of reasons: for impression

management purposes, as a means of controlling the sexual relationship, or from fear of parental discovery.

The third factor, which affects both contraceptive careers and decision processes, is the situation in which intercourse takes place. For example, a woman who would normally use contraception might not have it readily available if she is not involved in an on-going sexual relationship, but she might become caught up in a situation in which unplanned, and therefore unprotected, intercourse takes place.

Our emphasis has been on women because the male role in contraception has been less well investigated. To some extent this situation is understandable since the burdens of unwanted pregnancy fall mainly on women and contraceptive technology is primarily woman-oriented. On the other hand, an understanding of the factors affecting male contraceptive use can lead to methods of promoting that use and so lead to a reduction in the risk of unwanted pregnancy. What research there is suggests that there is only a little overlap between the variables which affect male and female contraceptive use. However, as noted previously, the research on men is limited by the lack of emphasis on personal as opposed to couple use of contraception.

## Future Directions

One necessary focus for future research is male contraceptive use. Almost no research has been conducted on variables which distinguish male users from nonusers with the emphasis on personal rather than couple use (Gold & Berger, 1983). It is quite likely that men's personal use of contraception is rather low, given men's relatively low stake in the physiological outcome of nonuse and the limited technology available to them. It is even possible that the major variables affecting a man's use of contraception are characteristics of his partner. Leary and Dobbins (1983), for example, found that condoms were used more often in relationships in which the woman was high in heterosocial anxiety, and the pill and the diaphragm more often in relationships in which she was low in anxiety,  $r = .38$ .

A methodological issue related to male contraceptive use is emphasis on personal rather than couple use. As noted previously, most research does not distinguish between respondents' own use of contraception and use by their partners. Thus, the variables which do correlate with male contraceptive use may be artifactual, resulting from a correlation between the man's and woman's score on the predictor variable.

As Miller (1979) and Cobliner, Schulman, and Smith (1976) have pointed out, the person-method interaction is an important variable in contraception research. It would be useful to know, for example, which characteristics of a contraceptive method make it attractive to different types of

people, and how the interaction of user characteristics and method characteristics affects the choice of method. The Leary and Dobbins (1983) study just cited is an example of such research. The only method characteristic which has received much attention is effectiveness; however, as Millie (1979) points out, methods also vary in the degree to which they affect the spontaneity of intercourse, the degree of genital manipulation required for use, and the degree of planning required for use. Even the extent to which persons need be aware that their partners are using contraception varies from method to method. The extent to which a method is used, therefore, can be a joint function of characteristics such as these and the potential user's beliefs about their desirability.

Contraceptive use is usually thought of only as a means of preventing pregnancy, if, in fact, pregnancy is not actually desired (Ladner, 1971). However, it can serve other functions, and the effects of these functions should be investigated more thoroughly. Nonuse of contraception can, for example, serve as a means of impression management, a means of controlling the sexual relationship, or a valid excuse for refusing intercourse.

From a methodological point of view, future research should use multiple operational definitions of both independent and dependent variables. Such a strategy would increase the generalizability of the results obtained; it is also important to bear in mind that many of the predictor variables described in the review above are intercorrelated (e.g., DeLamater & MacCorquodale, 1978; Thompson & Spanier, 1978; Vincent & Stelling, 1973), so that some sets of them might represent a single latent construct rather than different variables. A multivariate approach would take advantage of these correlations. In addition, any of the predictor variables could interact with another; most studies have neglected to look for interactions. Finally, the effects on the predictor variables could be moderated by other factors such as socioeconomic status, racial or ethnic group, and education (Chilman, 1983).

In sum, then, a great deal of work has been done on the question of adolescent contraceptive use, and a number of important personal, social, and situational factors have been identified. However, a great deal more work remains. The male role in contraception is greatly understudied, as are some racial and ethnic groups, such as the Hispanic, Oriental, and Native American.

## APPENDIX STUDIES INCLUDED IN THE META-ANALYSIS

1. Adler, N.E. (1982, August). *Adolescent contraceptive decision-making*. Paper presented at the meeting of the American Psychological Association, Washington, DC.

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# Teenagers Talk About Sex, Pregnancy and Contraception

By Ellen Eliason Kisker

## Introduction

A number of studies have documented high levels of nonuse and of inconsistent use of contraceptives among sexually active teenagers. Melvin Zelnik and John F. Kantner, for example, found that in 1970, 27 percent of metropolitan 15-19-year-old women who had ever had intercourse had never used a contraceptive, and 39 percent were protected only inconsistently.<sup>1</sup> Christine A. Bachrach found that 31 percent of never-married sexually active 15-19-year-olds were not using any contraceptive in 1982.<sup>2</sup> The reasons why adolescents fail to practice contraception consistently have been less clearly documented. Zelnik and Kantner explored the issue in a national survey carried out in 1976.<sup>3</sup> They found that slightly more than half of those teenagers exposed to the risk of unintended pregnancy had failed to use a contraceptive because they had thought they could not get pregnant at the time of intercourse. Of those who had believed they were at some risk, the highest proportion said that they had not used a method because they had not expected to have intercourse. Other reasons cited by the teenagers include not having a method at the time of intercourse, the partner's objection, the belief that contraception is wrong or dangerous, lack of knowledge about where birth control can be obtained or what methods exist, and the claim that contraceptives are too difficult or unpleasant to use. As a result of nonexistent or inadequate contraceptive practice, it has been estimated that in 1982, about one out of every 10 U.S. teenagers had a premarital pregnancy.

**"The first time, it was like totally out of the blue. You don't . . . say, 'Well, I'm going to his house, and he's probably going to try to get to bed with me, so I better make sure I'm prepared.' I mean, you don't know it's coming. . . ."**

A research technique based on discussions with small groups known as "focus groups" was used to provide insights into why teenagers do not practice contraception effectively. Information acquired by this means may be useful in complementing more rigorous quantitative studies and may suggest directions for future investigation. Focus groups usually consist of 6-12 participants (in this study they averaged about eight) who, under the guidance of a trained moderator, discuss topics of concern to the researchers. John Knodel and Anthony Pramualratana have pointed out that "the informal and supportive group situation and the open-ended nature of the questions are intended to encourage participants to elaborate on behavior and opinions that might [otherwise] be difficult" to learn about.<sup>4</sup> The focus-group technique has, however, several limitations. The ability to generalize from the results of focus-group research is restricted by the qualitative nature of the questions, the small sample size and the nonrandom selection of participants. In addition, certain problems with group dynamics may arise. (For instance, one or two participants who are more articulate than other members may dominate a session, or opinions that are considered socially unacceptable may not be expressed in a group setting.) Skilled moderators can minimize

this type of problem. Finally, interpretation of the results is a highly subjective process. For this reason, it is useful to involve several people when focus-group discussions are analyzed.

In order to investigate some of the possible reasons for poor contraceptive practice among U.S. adolescents, in 1983, The Alan Guttmacher Institute conducted a series of 10 focus-group discussions with teenagers in five U.S. cities. Two focus groups each were conducted in Chicago; Indianapolis; Janesville, Wisconsin; New York City; and Seattle. Two groups were made up of male teenagers, and eight, of females. Half of the groups were made up of 16-17-year-olds and half, of 18-19-year-olds. Potential participants were screened so that the groups would consist of single, sexually active\* teenagers of the desired gender and age. The teenagers did not know each other beforehand, and all lived in households in which no members were employed in the health professions. While several participants were black, the groups consisted overwhelmingly of white teenagers coming from middle-class and lower-middle-class families. Discussions were led by professional moderators of the same sex as the group. After each session was taped and transcribed, an analysis of the content was carried out.

Ellen Eliason Kisker is a Research Associate at the Office of Population Research, Princeton University. At the time she worked on this study, she was a Senior Research Associate at The Alan Guttmacher Institute (AGI). The study on which the article is based was directed by Jacqueline Darroch Forrest, AGI Director of Research. Senior Research Associates Stanley K. Henshaw, Margaret Terry Ort and Aida Torres also played major roles in conducting the study. Henshaw super-

vised the logistics for the interviews; Torres was in charge of developing the interview schedule. All four researchers developed an outline for the analysis, and, with the author, took responsibility for analyzing in depth two of the focus group interviews each. The interviews were conducted by Ina Hillebrandt and Paul Zuckerman of Hillebrandt Consultants, Inc. Funding for the study was provided by The Rockefeller Foundation. The author would like to thank Susan Eibman, Susan Ratner,

Lynne Brenner and Jennifer Manos for their help in processing the tapes and transcripts from the focus groups.

\*Up to two teenagers who were virgins were admitted to each group. However, this screening process failed in the case of the group made up of 16-17-year-old women in Wisconsin; only three out of the eight members of that group had ever had sexual intercourse.

### Sexual Activity and Contraception

When adolescents initiate sexual activity, many appear not to have anticipated or planned for such an event. Zelnik and Farida K. Shah report, for example, that in their 1979 survey, 83 percent of metropolitan teenage women said they had not planned to have intercourse.<sup>5</sup> Similarly, many of the focus-group participants reported that their first experience of sexual intercourse had been unanticipated and that they had been unprepared for it. The failure to anticipate and plan for first intercourse appears to reflect a good deal of the ambivalence teenagers feel about becoming sexually active.

P: \* The first time, it was like totally out of the blue. You don't . . . say, "Well, I'm going to his house, and he's probably going to try to get to bed with me, so I better make sure I'm prepared." I mean, you don't know it's coming, so how are you to be prepared?

*New York woman aged 16-17*

Most of the focus-group participants reported having used no method at first intercourse, although a few said that they had used withdrawal or rhythm. In a 1979 survey, 51 percent of white premaritally sexually active teenage women living in metropolitan areas said that they had used a contraceptive at first intercourse, primarily withdrawal or the condom.<sup>6</sup> Among those who had not used any method, 28 percent said it was because they had not planned to have intercourse. Twenty-three percent said they had not thought about it. Similarly, members of the focus groups explained that their first experience of sexual intercourse had been unexpected, which was why they had not used a contraceptive method. Among the other explanations offered were difficulty discussing birth control with a new partner, fear of "losing the guy," fear of appearing immature by refusing unprotected sexual intercourse, fear of diminishing the partner's sexual pleasure and naive trust that the partner would take care not to get one pregnant.

P: Well, I didn't, you know, [want to use a contraceptive] . . . because I thought sex was supposed to be this great thing. . . . Then I felt guilty because he said, "Oh, I don't want to put on this stupid wet suit [condom]. You know, and I felt kind of guilty."

*Chicago woman aged 18-19*

Like first intercourse, sex with a new partner is often unplanned. Ambivalence and the negative, unromantic images teenagers associate with being prepared continue, in this

situation, to make them resist anticipating intercourse:

M: Do you ever have sex without any method?

P: Sometimes. Sometimes I have no alternative.

P: When you're our age, you can't always say when you're going to have sex . . . because, you know. . . .

P: It just happens.

*Indianapolis women aged 18-19*

It became clear that if discussion of sex or contraception with a new partner is difficult, it is often avoided altogether. Several of the younger teenage men from Indianapolis feared that raising the subject of birth control with a new partner might be taken as an insult and "shut things down." The older teenage men from New York thought such a discussion would make the young woman angry. While several of the younger adolescent males in Indianapolis suggested that they would wait for their partner to bring up the subject, one of the older New York males dismissed the need for any discussion of birth control with a new or casual partner:

P: You really can't tell [whether or not the girl is on the pill]. Why bring it up? You know sooner or later. You can ask if you want to, and she can ask or tell you, but why do it? The girl is smart. I really don't think she would go through with it if she wasn't prepared. So, hey, I wouldn't say nothing.

M: So you are assuming that [if] she doesn't say anything, she is on something?

P: I don't care if she [is] or not. That's her problem.

*New York man aged 18-19*

Most of the young women tended to agree that realistically speaking, birth control is their responsibility, especially if the relationship is casual.

P: I think it's the woman's responsibility. . . . See, if there's a relationship, it's a little different. But if it's a one-night stand, you should take it upon yourself. If you want to participate in sexual relations, if you are responsible enough to do it, you should be responsible enough to take care of your own body.

*New York woman aged 16-17*

However, some women seemed willing to risk pregnancy rather than defer sex until a later date when they would be protected.

P: There could be that casual guy you just met. You know it's going to be a big thing and you want to have sex with him, and you're not going to say, "Give me a few weeks. Let me get started on the pill" or "I'm going to

run down to Planned Parenthood and get a diaphragm." . . . You take a chance.

*Indianapolis woman aged 18-19*

Several young women said that they did not use a birth control method because they only had intercourse infrequently. These women equate birth control with pill use, and for them, the perceived risks and side effects associated with this method outweigh the benefits:

P: I wouldn't go on the pill only if I was going to meet somebody, maybe to have sex casually, you know, like once a month or once every two months. I feel it's more for somebody who has a steady boyfriend.

*Chicago woman aged 18-19*

Among those teenagers who did practice contraception, the condom was the most commonly used method. Some of the young men, but none of the young women, said that they relied on this method to protect them from venereal disease, while several young women characterized the condom as the most appropriate method to use during casual sex or in a new relationship.

It was generally felt that sexual intercourse is easier to anticipate in an established relationship in which the partners know each other better and have a sense of the direction of their involvement. Familiarity with the partner makes it easier to predict reactions if the subject of birth control is raised.

P: It is easier to read if it is a girl you've been going out with—so then you are likely to bring [a condom] along, and she probably is not going to be so shocked. . . .

*Indianapolis man aged 16-17*

Moreover, in a serious relationship, there is greater motivation to discuss birth control because the partners care about each other and want to avoid pregnancy.

In an established relationship, most participants agreed, the most appropriate method to use is the pill. Many teenagers seem to feel that the perceived risks associated with this method are worth taking if intercourse is likely to be frequent and regular. Some who began taking the pill while involved in a serious relationship continued to take it even after that relationship ended.

### Fear of Pregnancy

Most of the young women in the discussion groups said that they had considered the possibility of pregnancy as a consequence of unprotected sexual activity. Yet many of them had sometimes elected not to use a birth control method in the belief that the odds were against their becoming pregnant. When this behavior was further probed, it

\*P denotes a teenage participant; M, the moderator.

became clear that most teenagers know that they can become pregnant but some reason that their chances of conceiving are very small because of the infrequency with which they have sex.

Some of the young women admitted that a pregnancy scare had been necessary to convince them of the need for birth control. In effect, such a scare had forced them to reevaluate the odds of a possible pregnancy. One young teenager from New York stated explicitly that she will "start doing something when she gets scared," and justified her current failure to practice contraception on the grounds that she was not scared yet. These impressions appear to reinforce the 1981 findings by Laurie S. Zabin and Samuel D. Clark that 30 percent of teenagers gave a pregnancy scare (their own or that of a friend or relative) as their main reason for going to a family planning clinic in the first place.<sup>7</sup>

Nevertheless, for many teenage participants, the fear of pregnancy was very real.

P: I always remember, though, the first time I ever did it, the next morning coming home, and I had my best friend with me. And I just started crying to her saying, "Oh my God. I know I am pregnant." I mean, the next day. "What am I going to do, how can I have done that? Why did I do that? How could I have been so stupid? I know I'm pregnant." [I] bawled my eyes out.

*Indianapolis woman aged 18-19*

Although the fear of pregnancy motivated many young women to adopt contraception, one participant said that it was precisely because of that fear that she didn't practice contraception. For this young woman, not using a method was her way of dealing with her ambivalence about being sexually active.

P: If I did [use a contraceptive], then I'd have sex more. Then it would be too easy. The risk won't be there; the risk won't stop me.

M: Why do you need to stop? What's wrong with having sex?

P: I don't feel it's right. I haven't been raised that way.

*Indianapolis woman aged 18-19*

In many cases, the young women reported that they were more worried than their partners about a possible pregnancy, especially when the relationship was a casual one. They realized that the partner could easily claim that he did not cause the pregnancy and leave them alone to cope with the consequences. One young man from New York commented, "You don't have to worry about pregnancy if you are not going to see the girl again, anyway." In general, the young men were unaware of any legal obligations in the

event of a pregnancy, although several thought that they would feel under some kind of moral obligation in such a situation, especially if the relationship was a close one.

### Abortion

In almost all the focus-group sessions, the teenage women were asked whether they would obtain an abortion if they became pregnant. Among those who said they would choose this option, the reasons included the claim that they were too young to have children, that they would not make good parents, that they did not have a steady boyfriend, that the father of the child was not someone they loved, that pregnancy would disrupt their school and career plans, and that abortion was a safe procedure.

P: I would get an abortion. I don't want kids until I settle down and [can] afford it and give it a good life. Like if you got pregnant and missed school, you wouldn't graduate on time, or else you would just give up [school] totally and not graduate at all. And [your] mom would hate you.

*Seattle woman aged 15-17*

Some participants said that they would not have an abortion for religious or family reasons. One believed abortion was illegal. Several said that the fear of abortion was a strong incentive to practice contraception:

P: I know a girl who has had a few abortions. She was in the 9th grade, and she's in 10th now. Two girls I know had more than two or three.

P: They don't learn. It's stupid. I have no sympathy towards somebody like that. . . . It's not that hard to get birth control. It's not that hard to take the pill. It's not that hard to have the guys use something. It's not painful or anything.

*New York women aged 15-17*

### Information Sources

Of all the sources of information about sex and birth control mentioned by the teenagers in the discussion groups—school, friends, parents, books, magazines, advertisements—school was the most frequently cited. However, the content and quality of school sex education courses was far from uniform. Some students said they had acquired only basic facts about reproduction (and, less often, contraception) in a short unit of study in a health class, while others had taken more extensive courses in human sexuality, where contraception and sex were discussed in greater detail. Some participants had attended special school lectures given by staff from a nearby family planning clinic, and several young women said that they had vis-

ited a Planned Parenthood clinic as an assignment for their human sexuality class.

A number of participants claimed the friends were their main source of information, although several warned that friends cannot always be trusted to give correct information about sex and birth control.

P: Your friends don't always know what's right. Sometimes they don't even have sex and they think they know it all. They think they can tell you everything, you know. "Oh, you won't get pregnant standing up." You think you know so much when you are younger.

*Chicago woman aged 18-19*

In addition, friends sometimes become living examples of the adverse consequences of not using birth control. A number of participants said that they knew girls who had become pregnant.

P: My girlfriend had just gotten pregnant, and she kept telling me she was sexually active and she didn't have a steady boyfriend, but she was sleeping around with different guys that she dates, and she wouldn't get on the birth control pill. She was on it one time, but quit it right away. And she ended up pregnant. And right away she just got an abortion. And now she's sitting at home regretting that she got an abortion.

*Seattle woman aged 18-19*

A few of the younger girls admitted that they would be reluctant to discuss birth control with their friends, out of embarrassment at the prospect of those friends' learning that they had started to have sex, especially if they did not have a steady boyfriend.

Although books, magazines and newspapers were occasionally mentioned as sources of information about contraception, such sources were often found inadequate. A young man from Indianapolis went to the library to find out about the rhythm method but found the description in the book so daunting and complicated that he decided to continue using the condom. Advertisements also serve a purpose in familiarizing teenagers with various birth control methods, but they do not always provide the kind of information young people need, especially where side effects are concerned.

M: What about things like ads in magazines like *Penthouse* and *Playboy*? . . . Do they tell you anything? Do they teach you anything about birth control?

P: No, not really. They will show you a condom, what color it comes in; and whether or not [it] will have a taste on it . . . but [they don't] really in-

form you or tell you, "Hey, watch out. It's going to puncture."

*New York man aged 18-19*

Several young people mentioned films or television programs about contraceptive matters, but for the most part, they did not judge these to be an important source of information. Clinics, doctors and pharmacists were more often mentioned in hypothetical statements about where one could go for information; but these were not usually sought out mainly as information sources. Rather, the learning process was a by-product of visits to a clinic or doctor to obtain medical care or a contraceptive method.

Many younger participants claimed that they were too embarrassed or scared to ask their parents questions about sex or contraception. Some were afraid that initiating such a discussion would "get them into trouble" by revealing that they had become sexually active. However, the reluctance to talk about such topics appears mutual in many cases. One young man from Indianapolis commented that his father had delayed talking to him about birth control until long after he had already had intercourse: "My dad said to be careful and I just started laughing because he'd waited too long. He waited too long to bring it up."

Several participants reported that their parents had initiated a discussion of the subject by offering them help in obtaining a contraceptive method, despite some reservations about the teenager's sexual activity. However, teenagers do not always feel comfortable accepting parental involvement in sexual matters:

P: My mom is . . . like, "Well, if you really want to go all the way, . . . then let me know. And I will go, and I will take you. And I will put you on birth control, . . . if that's what you really want, because I'm not going to stop you. I'd rather do that than have you be saddled with a baby by yourself, or with a guy. . . ."

M: Well, did you take her up on her offer?

P: No, I didn't. I was always too embarrassed or shy or—not ashamed, but just too embarrassed to bring the subject up with her.

*Chicago woman aged 16-17*

### Knowledge and Use of Methods

A considerable part of each focus-group session was devoted to the discussion of specific methods of birth control—levels of knowledge; patterns of past, current and possible future use; and the benefits and drawbacks of each method.

Nearly all the young participants knew in

general terms about withdrawal. Several were not familiar with that precise term, but mentioned "pulling it out" and "making sure he doesn't come inside me" as methods of contraception. Most participants understood that withdrawal is not very effective, apparently aware, as a young woman from New York pointed out, that "all it takes is one tiny sperm to get pregnant." However, several young people noted that withdrawal is "better than nothing."

In addition to its relatively low effectiveness, the group members mentioned several other drawbacks to withdrawal: It is unpleasant for both partners because worry about whether the young man will withdraw is distracting; the girl must depend on her partner to withdraw; it interrupts intercourse; and it destroys the "closeness" of the couple.

Among the advantages cited was its usefulness at first intercourse or when sex is unplanned; some teenagers even described it as "spontaneous"; others found it "not messy" and easier to use than other methods.

P: You don't have to bother with putting on a rubber, bother with inserting foam, or taking a pill every day. It sounds like a cop-out, but you don't have to bother.

*Chicago woman aged 16-17*

Most participants had heard of the rhythm method and appeared to have a vague notion of how it works. However, few could correctly name the "safe" period of the menstrual cycle.

M: What are you missing in terms of facts?

P: When you are supposed to do it. I mean, I know . . . it's timed with your period, like so many days. I would only consider it safe after I've had my period. I wouldn't take a chance before.

*Chicago woman aged 18-19*

On the whole, the women who discussed the rhythm method considered it an unreliable method and one that was particularly inappropriate for the many teenagers who have irregular menstrual cycles. In fact, very few group participants had ever used this method, and one who claimed that she had done so demonstrated a poor understanding of the technique. The only advantage claimed for the rhythm method was that it could be used when "you have nothing else"; and a young woman from New York noted that "the Church recommends it."

The young people in the groups showed a relatively sketchy knowledge of spermicidal foam, jelly or suppositories. Those who had heard of foam, for example, understood that it prevents pregnancy by killing the live sperm, but did not themselves know how to use it. One or two had heard of suppositories,

but knew nothing of how they were used. The main source of information about spermicidal products was advertising.

In addition to their poor levels of knowledge about these methods, many of the young people believed that spermicides are not very effective. However, several participants did know that if used in combination with the diaphragm or condom, spermicides have low failure rates.

Some of the participants had used spermicidal foam, but none reported using suppositories or jelly, without a diaphragm. Several young women noted that foam was a good method for temporary use, for example, during the first few weeks of pill use. Several young women said they were reluctant to try contraceptive suppositories because they did not know anyone else who used this method.

However, the ease with which spermicides can be obtained, the fact that women can carry them with them and be responsible for their use, their low cost and the feeling that they are more "natural" were all mentioned as advantages. On the other hand, some said that spermicidal methods are messy, inhibit spontaneity, are inconvenient to use and may cause a burning sensation.

P: Disgusting, drippy.

P: It's a mess.

P: What goes up, must come down.

P: Like a nuisance. . . . You just stop everything to wait for it.

P: I mean, you're out with a guy and all of a sudden something starts up. You say, "Excuse me, wait. . . ." You know, you don't know what's going to happen.

P: But it is messy, because it accumulates, you know. It grows bigger inside when you put it in. It, like, forms a wall.

P: It's inconvenient.

P: It's not spontaneous.

*Chicago women aged 18-19*

All the young people in the discussion groups had heard of the condom and knew that there are many types of condoms. However, some young men admitted confusion over which kind is "best." Although there was a general understanding among participants of both sexes that the condom is a protection against venereal disease, most of those who had an opinion about the method's effectiveness mistakenly believed it to be low. There also appeared to be exaggerated fear of the condom's breaking.

Condom use tends to be associated with sex with a casual partner or in the early stages of a relationship, before a readiness to use the pill has developed and when "you're not committed." A young man from New York reported that he always used a condom un-

less he was with a steady girlfriend he knew to be using the pill or diaphragm.

A number of young women said they would be insulted if a young man pulled a condom out of his wallet, because his preparedness meant that "he knew he was going to do it before even I knew." On the other hand, several other young women firmly stated that they would decline sex unless their partner had a condom with him.

The young women in the focus groups expressed concern about men's negative feelings about condom use, and the belief that it decreases the male's pleasure seemed to make women reluctant to ask their partners to use this method.

P: It's inconvenient, of course. The guys don't like them. [They say,] "It's unnatural, you know," [or] "I don't want to be cooped up," [or] "It's like having sex with a gym shoe."

*Chicago woman aged 18-19*

While expense is considered one disadvantage of condoms, young people appreciate the ease with which they can be bought, the convenience of being able to carry them in a wallet, the protection they provide against sexually transmitted diseases and their safety.

Most of the focus-group participants had heard of the diaphragm, had a reasonably good understanding of how it works and believed it to be "pretty effective." One younger Chicago woman was concerned, however, that she might not be able to insert a diaphragm properly.

Several teenagers had used or were using a diaphragm, generally, if they were not involved in a steady relationship or if they knew that intercourse would be infrequent. Others said that they would not use this method because they believed it to be difficult to insert, uncomfortable, a check to spontaneity and "messy." Younger participants also reported that they would be afraid of their mothers' finding the diaphragm among their belongings. Others expressed different concerns about the device:

P: I don't know. It seems so weird.

P: It's the anticipation. It couldn't be spontaneous. It has to be planned out.

P: Yeah.

P: You wonder if it shifts, if you put it in right.

P: Yeah, you would be worried about it.

*Chicago women aged 16-17*

P: It's real uncomfortable. It's like a coily spring around the thing, and you've got to hold it and when it's going in you, it, like, starts to expand and it hurts. I mean, because it's like all

this pressure. I mean, it's worse than going to bed with the guy.

*Chicago woman aged 18-19*

Few teenagers had anything really positive to say about the diaphragm. One young woman thought she "would rather have the diaphragm than the pill because of side effects." Several young women felt that it is a good method because "it's something you don't have to do every day," "it's easy to carry with you," it allows sex to take place spontaneously and it is safe. One found the diaphragm pleasing because "in a way it is part of the guy that goes with you . . . keeps like afterglow."

Since at the time of the group sessions the contraceptive sponge was not yet available in most of the cities involved in the study, discussion about this method centered on whether or not the young people would consider using it when it did come on the market. Some thought they would, because it is new and disposable, and can be purchased over the counter. But others expressed some reluctance to try the sponge until they knew more about it or knew someone else who had tried it.

The IUD was familiar to most of the teenagers, although not many had anything but a sketchy knowledge of the method. While a few participants claimed that it was very effective, many said they knew of women who had had a bad experience with the device. Several teenagers expressed fear that the IUD could damage their insides or cause problems in pregnancy. There was also concern about infection, about losing the device inside their body and about possible pain. One young New York woman asserted that the IUD "is not practical for young girls. There are too many risks."

Of all the contraceptive techniques, the pill generated the most discussion. The young people were fairly knowledgeable about this method, although there were some areas of real uncertainty, in particular, about the minipill and a woman's ability to conceive after pill discontinuation.

P: She hears one thing, I hear something else. We don't travel in the same circles. She hears that she can't get pregnant for eight months after she goes off the pill. I hear I can't get pregnant 'til four months after I go off the pill. But I know someone who got pregnant a day after she stopped taking the pill.

*New York woman aged 16-17*

Although several participants mentioned potential benefits from pill use (such as protection from some kinds of cancer), most comments reflected a great deal of concern—some of it misinformed—about negative side

effects. For example, a young woman from New York was under the impression that the pill made one's hair fall out, and a young man from the same area reported that the pill produced birth defects if used for long periods. Others mentioned cancer risks, heart disease, blood clots, headaches, nausea and weight gain.

P: My aunt says something about the heart. You can get high blood pressure and heart attacks, too.

P: You are not supposed to smoke and be on the pill.

P: It increases the chance of cancer in the uterus.

P: I heard it can also prevent it. [I] can help. It can . . . what does it do? I can't remember what she said. But a I know is she said it can prevent. But you can also get other things—blood clotting and everything else.

*Chicago women aged 18-19*

The fear of side effects emerged as one of the main reasons why many of the sexually active young women were not using the pill. Some claimed that they had friends whose bad experiences with this method had discouraged them from adopting it themselves. A young man from New York noted that in his view, women tend to be more concerned about the pill's immediate side effects than they are interested in its long-term effectiveness in preventing unwanted pregnancy:

M: The pill is not that popular?

P: Because I think the girl is more concerned with side effects than with its effectiveness. You know, girls taking the pill, they start worrying about the time now. [You] say it is effective, [but] they aren't worrying about the future.

*New York man aged 18-19*

Participants also complained that the pill was expensive, a nuisance to take every day and difficult to obtain without forfeiting some privacy:

P: Well, I did not decide not to use it. It's more like when I thought about it, I was a freshman. You know, I did not know about birth control. And I figured it would be like a big expense for me to [get] new pills all the time. And I didn't know if you had to be a certain age. I didn't want to give somebody my name or anything, you know, and have them call my mom.

*Chicago woman aged 16-17*

However, despite these criticisms, those who were using the pill at the time of the focus-group session liked the method because of its high level of effectiveness, because of its convenience and because they thought that the reduction in anxiety it al

wed them enhanced the pleasure they found in sex.

Sterilization as a method of birth control was mentioned in only two of the sessions. On both occasions, the participants agreed that it is not appropriate for young men and women.

### Knowledge and Use of Providers

Discussion revealed that nearly all the participants in the focus-group sessions had heard of a family planning clinic in their area, from friends, special school programs, television or leaflets.

P: They stress it a lot in school. A lot of schools talk about Planned Parenthood.

M: They do? What do they say?

P: Just that it's a place to go for information if you just don't want to go to a gynecologist. And it's just a regular kind of doctor, and it's confidential, and you don't have to worry about your mom finding out.

#### *Chicago women aged 18-19*

Specific knowledge about clinics ranged from fairly complete to scanty or incorrect, especially with regard to clinic practices and policies. To a large extent, such information was a function of whether or not the teenager had ever attended a clinic. Among most of those who had never gone to a clinic, these facilities were seen as dirty places that serve "undesirable" clients, places where the teenager would be lectured, treated impersonally and morally censured for being sexually active.

P: . . . and it'd be dirty, you know, sleazy and all these poor women there like the welfare line, you know. You see pictures of that. Yeah, that's what I thought.

#### *New York woman aged 16-17*

P: I think it would be rushed in and rushed out. "Your number is 715856 and here's your stuff for VD or whatever." . . . It's very impersonal.

#### *Chicago woman aged 16-17*

A number of participants claimed that they would be embarrassed about going to a family planning clinic—mostly out of fear of being seen by someone they knew.

P: I'm just afraid of walking in there, and . . . someone you know is going to see you there.

P: They are there for that [same] reason.

P: You don't think about that. You say, "Oh man, they know."

P: I just can't get the guts up. If I saw someone in there I knew, I would just die.

P: Oh gosh.

P: It is just an embarrassment.

P: Think about what your friends might think about you.

P: What your friend that didn't have sex might say.

#### *Indianapolis women aged 18-19*

However, teenagers who had attended a clinic were often staunch defenders of the services.

P: Once you go, it's really different.

P: It's not gross. There are caring people [at the clinic]. The people who work there are there for a reason. They're compassionate; they understand. Some of them probably have daughters our—my—age, and they feel they want to do what they can. You know, it's really not gross.

#### *New York women aged 16-17*

Many of the young people stated that they would fear being seen by family friends if they went to their doctor to ask for contraceptive care. They also expressed concern about possible violations of their need for confidentiality.

P: It occurred to me to go to my family doctor, but I would never do it.

M: Why?

P: Because my family doctor, he's only like 35. And I have like . . . a friendship thing with him. He said if I ever needed to talk, I could always call him. He said it in a way like, don't get yourself in trouble. And he is, like, young. But he still converses with the older doctor, and I know he is very close with my mother. He would tell my mother anything, and I don't think I could trust him.

#### *Chicago woman aged 16-17*

Nevertheless, like those who had gone to clinics, the young people who had felt comfortable enough to visit the family doctor, or who had been approached on the issue of birth control by their doctor, generally expressed satisfaction with the way they had been treated. The doctors had made an effort to put them at their ease, to explain the different contraceptive methods and to prepare them gently for the pelvic examination.

Pharmacies were also discussed largely in terms of embarrassment.

P: When I go there, the [pharmacist] knows what I want. . . . People looking at you, old men, you know. There are a lot of old men. . . .

#### *New York woman aged 16-17*

Several young women admitted that they would have problems going into a drugstore to buy condoms, whereas the purchase of spermicides would not bother them.

M: What would be the problem [with buying condoms]?

P: It would be embarrassing.

M: But wouldn't you be embarrassed to buy Encare?

P: [But] I am a girl. . . .

P: You see guys buying rubbers. . . .

P: I don't know, I think [that it'd] be easier [for guys].

#### *Indianapolis women aged 18-19*

However, pharmacies were praised for being easily accessible, and the discussions revealed that once inside, teenagers learn to cope with their embarrassment in different ways. One young man simply avoids the drugstore where a friend works and buys his condoms in another neighborhood. Another, more desperate, group member confessed that she had been so embarrassed that she had stolen contraceptive supplies rather than face the cashier.

Despite this pervasive element of embarrassment, many of the teenagers agreed that nonprescription contraceptives sold in drugstores are the methods most easily available to them, and most of the participants who had practiced contraception had relied on these at one time or another.

### Discussion

Before any evaluation of the study findings, it should be reemphasized that the teenagers who made up the study focus groups were predominantly white and middle or lower-middle class. Nevertheless, the responses of these young people about their sexual and contraceptive experiences were relatively consistent with the attitudes and behavior reported in larger quantitative studies of American adolescents. Moreover, the responses help to explain the qualitative factors that lie behind the facts and figures garnered from quantitative research and add a certain vividness to the data. For example, many teenagers say that they had not used a contraceptive method the first time they had had sexual intercourse because they had not anticipated having sex. This surely does not mean that first sexual experiences come like a bolt from the blue, with no prior expectation on the part of either partner. Rather, what we hear time and time again in the dialogue with the moderators is that teenagers, especially young girls, cannot plan for their first sexual encounter because to do so would be to acknowledge the fact that they are becoming sexually active. One message from society is that sex at a young age and before marriage is bad. Yet, the same society extols the excitement of sex and sexual attractiveness in newspaper, magazine and billboard advertising, and on television, video and movie screens across the length and breadth of the country. As a result, it appears that

many American teenagers are beset by confusion as to the proper norms governing their sexual behavior. The resulting ambivalence permits adolescent women to be swept away by sexual passion, but not to admit that passion leads to coitus or that coitus—if unprotected—leads to pregnancy. What is more, the groups report that even after a first sexual encounter, the first occasion of sex with each subsequent new partner creates the same kind of communication problems.

The understandable response to this ambivalence appears to be an overwhelming confusion and sense of personal embarrassment—the emotion most frequently acknowledged by the young people taking part in this study. They are shy, ill at ease, and self-conscious when they find themselves about to have sex for the first time with a new partner, when dealing with parents reluctant to learn about their children's burgeoning sexual feelings, or when trying to buy a contraceptive product from the local druggist.

Another message to emerge from the group discussions is that today's young people are probably sexually sophisticated in ways and to a degree that their parents and grandparents at the same age were not. Yet much of their information about sex, reproduction and contraception is sketchy, ill digested or just plain wrong. Often teenagers do not appear to realize that their information is incomplete. The majority of young high school students in this country, it has been shown time and time again, do not know when the most fertile part of a woman's menstrual cycle is likely to occur; understanding of the IUD is vague; and the pill is universally familiar but widely misunderstood. Myths abound. Some believe that you cannot get pregnant the first time you have sex or if you have sex infrequently.

What is more, some of the young people's parents are not much better informed than their children. And even parents who know the facts may find talking about sex and contraception with their children an uncomfortable prospect. Their children probably dread the encounter just as much. Frank F. Furstenberg and his colleagues found that family communication does not play an important role in teenagers' contraceptive practice anyway.<sup>9</sup> They suggest that most parents tend to avoid direct discussion of the teenager's sexual activity, out of respect for the adolescent's privacy.

What then should be the conclusions of this study, other than to confirm and flesh out what we already know? What lessons can be learned from the anecdotal evidence of a handful of American teenagers across the country? A number of recommendations for action and possible directions for further re-

search seem to follow from much of what the discussion groups have taught us:

- Embarrassment and an intense desire for privacy appear to dominate the feelings teenagers have in connection with their sexual activity. Recognizing this fact, providers of contraceptive services must make it known that their programs respect the young patients' needs. Outreach programs that stress clinic policies in this respect clearly are necessary in many communities. It is of interest that most adolescent focus-group participants who had attended a family planning clinic or who had visited a doctor seemed no longer worried about a possible breach of confidentiality. Teenagers who have had satisfactory experiences obtaining services should be used in broad information programs to publicize the fact that clinics and physicians don't squeal on their patients.

- The content and quality of sex education courses in the United States vary widely from city to city, state to state and region to region.<sup>9</sup> Promotion of a national policy supporting minimal levels of reproductive and contraceptive teaching in all public junior high schools is surely advisable.

- Since many young men assume they have no legal obligation to a child they father out of wedlock, or to the child's mother, there may be a need to educate male teenagers about their responsibilities and to strengthen sanctions against young fathers who decline financial or personal involvement with their offspring.

- Although many teenagers admit that their friends—who are their main source of information about reproductive matters—are often themselves ill informed, companions and peers continue to constitute the major repository of sexual lore for most teenagers. If this is so, then accepted theories of group learning and peer influence might be capitalized on, and selected students in every school might be trained to teach, as informally as possible, the so-called facts of life. Such student leaders should be selected from among a broad range of ethnic, cultural and class groups within the school. The student leaders should engage in role-playing to illustrate appropriate norms for communicating to partners about using a birth control method.

- Both parents and children frequently have strong feelings of embarrassment about communicating on the subject of sexuality and birth control. Even when parents have accurate knowledge and make conscientious efforts to encourage appropriate contraceptive behavior, emotional factors in the parent-child relationship may make such discussions unsuccessful. Programs to teach and encourage parents to communicate with their chil-

dren about sexual matters are likely to have limited potential for improving the contraceptive practice of teenagers.

- If we accept the fact that many parents do a poor job in imparting sex education to their own children, the resources at their disposal to delegate this function to others who perform it better should be made easily available. In France, for example, a number of government agencies have assumed the responsibility of printing fliers made available in a broad range of public places (such as town halls, public libraries and railroad stations) informing the population where a birth control clinic in the surrounding community is located. Towns, health departments, clinics and community groups in the United States could follow suit, so that parents could easily pick up and make available to their children in whatever manner they feel is appropriate a similar pamphlet directing young women to clinics. Parents could also encourage their children to discuss and birth control with their family doctor, assuring them that their discussion would be confidential.

- A widespread campaign could be launched to inform doctors and teenagers that the condom is the safest as well as the most effective contraceptive method for most teenagers.

- The growing awareness of the risks of sexually transmitted diseases provides fertile ground for improving knowledge of the condom and its role in preventing the spread of venereal infections.

- It is clear that reproductive risk-taking occurs on a large scale among American teenagers. Why is an actual pregnancy scare often necessary to convince sexually active young women that *they* are susceptible to pregnancy? Does their risk-taking behavior reflect a more general inability to think ahead and plan for the future?

- Among each group discussing their sex and contraceptive experiences, one or two individuals usually emerged who had successfully embarked on responsible sexual active lives. How does the situation of these young people differ from that of adolescents whose contraceptive practice remains inconsistent, ineffective or nonexistent? These issues should be investigated in some depth so that we can gain better understanding of the attitudes that underlie the behavior of many teenagers in the area of sex and reproduction.

In summary, the focus-group discussions have highlighted the following significant obstacles to consistent and effective contraceptive practice among sexually active teenagers: social values that denigrate contraceptive preparedness; poor communication with parents and partners; inadequate factual

information from peers; widespread discomfort and embarrassment in the areas of sexuality and contraception; an overwhelming need for privacy about sex and birth control; little awareness on the part of males about their legal responsibilities in the case of out-of-wedlock births; poor understanding of many of the most effective contraceptive methods, especially the pill; and negative feelings about family planning clinics and private physicians. Taken together, these constitute a formidable array of barriers to effective contraceptive practice. It is important that we begin to devise ways in which at least some of them might be lowered.

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## A FOCUS GROUP STUDY OF SEXUALLY ACTIVE BLACK MALE TEENAGERS

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### ABSTRACT

This is a report of a focus group study conducted by the National Institute for Adolescent Pregnancy and Family Services at Temple University. It presents in detail how the study was carried out and relevant findings from the transcripts of sessions held with a group of sexually active teenage males, including excerpts from the transcripts. Also included are the characteristics of the participants and a summary of the services they requested from a model adolescent pregnancy prevention and care program.

Temple University in Philadelphia, Pennsylvania, decided to provide, on campus, a city-wide comprehensive program for pregnant adolescents, adolescent parents, their children and families, along with pregnancy prevention services. This program of the National Institute for Adolescent Pregnancy and Family Services is a model for the nation. There is no other institute in the country where professionals and nonprofessionals can turn for educational training, research and policy direction, and technical assistance in prevention and care of adolescent pregnancy.

The model center for Philadelphia residents is a major part of the institute's national work. However, unlike many other institutes, the university was interested in getting its direction from the indigenous parties involved—the teenagers and the parents. The search for a reliable method of ascertaining the direction of the institute and the kinds of programs and services needed and desired by the target population led to the use of focus group sessions. This is a qualitative research technique widely used by business and industry, wherein it is considered essential to understand the psychological and behavioral underpinnings of a person's actions and to identify ways and means to influence behavior. A wide spectrum of modern marketing techniques, including social marketing (marketing of products and services

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not related to private industry), makes use of group session research. This approach has been found to be valuable in determining basic behavior, reactions to specific stimuli, and as a source of information.

As indicated by Stycos (1981), focus group research has not been used very much outside the private sector. During the past several years, however, the potential of the focus group technique for social action programs has begun to draw attention, and some programs have begun to utilize it. To date, there is no evidence in the literature that any other programs have used this research method.

Focus group research is clearly not an all-purpose method, although it is an effective tool for providing directional goals for programs such as the institute's model center. Additionally, it is a low-cost technique for improving the efficiency and effectiveness of social action programs. Following an extensive review of the literature, the institute elected to test its efficacy in determining the key components for the Model Adolescent Pregnancy Center, funded by the William Penn Foundation, and at the same time its use by other adolescent pregnancy programs. While the study involves various segments of the teenage population and their parents, this report discusses only the results from the sessions with teenage males.

The literature shows that few of the services designed for teenage parents had a component for teenage fathers, and even where there was information about the fathers, the nature of the services provided to them was not described. In fact, few studies on adolescent pregnancy mention fathers or describe specific services for them.

## RESEARCH DESIGN

Focus group research involves intensive group sessions as described by Felch-Lyon and Trost (1981) and Schearer (1981): "A focus group session can be simply defined as a discussion in which a small number (usually 6 to 12) of respondents, under the guidance of a moderator, talk about topics that are believed to be of special importance to the investigation." Participants are chosen from some specific target group whose opinions and ideas are particularly germane to the investigation.

Information is obtained from the discussion, in which each participant may comment, ask questions of other participants, or respond to comments by others, including the moderator. Interaction among the respondents is encouraged in order to stimulate in-depth discussion of various topics.

The staff designed a discussion instrument that included four major areas of importance so as to assure that the comprehensive center

would meet the needs of the target population. The first was an understanding of how the participants viewed success. For example, the leader asked the group what they considered success, what they wanted for their children, and what they considered success for them. Second, the discussion evolved to what it is like to be a teenager and how they handled peer pressure. Third, participants were asked what they thought about dating and whether dating was about sex. Finally, there was discussion about the services that should be offered by the institute.

## DESIGN OF FOCUS GROUP SESSIONS

### *The Design Process*

Institute staff and consultants spent two months planning for the study and the sessions. Several steps evolved: (1) Extensive review of the literature. (2) A decision was made to hire one group leader and include him in the planning process and design of the discussion guide. (The group leader selected was a licensed psychologist who had extensive experience working with teenagers and their families in the area of teenage sexuality, pregnancy, and parenting.) (3) Four drafts (from complex to simpler design) of a discussion guide were written for the group leader. (4) The final discussion guide included a broad outline of topics to be covered, checklist items to be specifically dealt with in sessions, and the appropriate time to be spent on each topic. (5) A questionnaire was prepared for each group to obtain socioeconomic data. The questions were designed to avoid offending participants, with a different questionnaire used for each group.

### *Logistics*

A critical factor in successful focus group sessions is providing adequate and comfortable space which is convenient to the participants. Therefore, sessions were held in an inner-city facility near the university target area and at a suburban high school. The two sites were selected in order to diversify the population.

Many hours were spent in planning the logistics, providing breakfast, snacks, lunches or dinner, bringing in tape recorders and transcribers, and attending to other essential details. Experience from similar programs indicates that serving food to the groups is an additional incentive to participate. Additionally, by having the meals planned by the institute, the dietary habits of participants could be influenced. Each group met for a 4-hour session. An assistant was present at each session to handle the details so that the group leader could be free to interact without distraction.

## Recruitment

Staff elected to recruit participants themselves rather than hire a commercial firm to do this and conduct the study. Several agencies referred participants, including Temple University, local health agencies, the school district, and community groups.

As names were forwarded to the institute, staff made personal contact, either through a home visit or by telephone, to explain the project and obtain consent forms where necessary. Participants were offered \$15 per session to cover essential expenses or to use for their own self-enhancement.

The 20 young men in the study ranged in age from 13 to 20 and had a total of 10 children of their own. Each of these young fathers had his first child between the ages of 15 and 19. Five participants were working, 12 were in school, and 3 were out of school and unemployed. A few of those in school had part-time jobs. Approximately half were living below the poverty level. Four were not living at home with their parents, and 15 reported that one or both of their parents were employed in blue-collar jobs. Five indicated that their father lived with them. Among those who had children, only one lived with them.

## FINDINGS

### On Success

In general, most of the responses were similar. The young men reflected their view of success through the work they wanted to do. Almost all of them had career goals that included owning their own business, working as computer programmers, and other semi-professional occupations. The expression of the kinds of lifestyles they wished to enjoy was commensurate with their occupational choices. For example, one 13-year-old stated, "I want to finish my education and then be a football player." Another response was, "I have 8 brothers and 4 sisters, so I'm talking large family. [I have] something like 35 nieces and nephews, so therefore my mother, she love kids. She took care of kids all her life, so that's what I'm going to basically do."

The most frequent kind of response is reflected by the following: "My success, I really want to own a chain of auto body repair shops throughout the city. I just want to be my own boss and have a successful business." As we reviewed this segment of the tape on success, the above comment was more reflective of the group's attitude. Most of these young men have realistic career aspirations. For instance, the young man who expressed a desire to own a chain of auto repair shops had worked for most of his teenage years in an auto shop and knew

the business. This was not unusual for the adolescents in this group. Most of them expressed the desire for a career in an area where they had had experience.

Most of the young men had high aspirations for their children, and of prime importance was a good education. For example, one young father stated, "I just want him to finish school." Another said, "I can just make sure that they get the quality education that they should." Several indicated that they would have their children follow their own desires, through such responses as, "I want my kids to do what they want to do" and "I would try to teach my kids what's right and wrong. I would show them different things and let them choose for themselves." One young man put it this way: "I'd like for mine to go to school. I would like to have goals set for them while they are young, like in sports."

It was abundantly clear that the group appeared to understand that in our society they had to go to school if they were to enjoy the success that they defined.

### On Being a Teenager

In general, these young men feel that the teenage years are a terrible time in their lives, as reflected in such statements as, "It was terrible," "Rough!" and "You'd fight it out." When asked specific questions about this negative attitude, one participant stated, "It's difficult because of peer pressure. Some want you to do this, some want you to do that. Smoke a joint, drink." Another said, "They want you to hang out; they know that you don't want to smoke or drink, but they say come or try this, try that. If you don't do it they don't want you to be around. You can't be one of the boys." Still another said, "I think it's really difficult because there are a lot of people out there who are a bad influence on teenagers." When the facilitator asked who these people were, the reply was, "like drug pushers out there, you know, and alcoholics. They try to force teenagers to use drugs. In my neighborhood there's a lot of drugs up and down the streets. Kids 12 years old seeing people taking drugs; that's kind of bad on them."

From these comments, it was clear that the problem of being tempted to participate in harmful acts troubles them greatly. One participant said, "When you're growing up, these temptations come before you know what life is about. How do you deal with them?"

When the group was questioned about the lack of academic achievement among their peers, the following dialogue ensued:

*Participant:* Because they are too involved with the street. They're in the streets partying. Sunday night everybody's getting off of their high.

*Facilitator:* Getting off of what high?

*Participant:* The high from the parties and whatever happen on the week-end.

*Facilitator:* What do you get high off?

*Participant:* You want me to start naming the things?

*Facilitator:* Yes.

*Participant:* The number one is reefer. Teenagers can chip in and get a 5-cent bag, which is 5 dollars, which is not hard to get. You got a little harder stuff like cocaine, heroin, and a variety of things you can get on the street.

*Facilitator:* Do you think a good many teenagers are doing this?

*Participant:* I would say 50% smoke reefer. I mean half the people in here smoke reefer.

*Facilitator:* I'm not asking about you. Do you think half the teenagers smoke reefer?

*Participant:* Yes (everyone agreed that at least 50% smoke reefer).

*Participant:* I think 75% smoke reefer and the other percent is drinking.

*Facilitator:* There is a little drinking going on out there too?

*Participant:* Of course. You'd be surprised.

*Facilitator:* So you say that probably half smoke reefer and 25% drink?

*Participant:* Women drink just as much as men. Women drink more and show less.

*Facilitator:* So you're saying that 25% of the teenagers drink fine wine.

*Participant:* Yes, fine and cheap.

The implication of this dialogue is that these young people find it next to impossible to balance these street-life activities with the demands of educational institutions.

### *On Dating*

At one point in the dialogue, the facilitator thought that the participants might be giving responses that they felt were expected by staff or the general public. However, all doubt as to the authenticity of the youths' responses was dispelled when the question was asked: "What do you think about dating?" The first respondent replied: "My personal opinion is that I think it's one of the most despicable, time-wasting things [institutions] because you know what you're going for, O.K. I think it is to affect the girl's mind." The facilitator then asked: "What do you mean 'to affect the girl's mind'?"

*Participant:* You know what you want after you spend your money. Let me put it this way: you know what you want after you spend your time. Time is worth more than money. What I'm saying is, dating is more like a psychological game. You're playing with time here. You're trying to show people or you're trying to show yourself what you can accomplish by doing such things as taking her out, taking whoever, 'cause some men take men out and some women take women out. You try to establish some kind of psychological advan-

tage over, whereas you can show this person how good a time you can show them and then your mind is already set for what you want to do. You just transfer your thoughts so that you can lead whoever into doing what you want to do.

*Facilitator:* While you're enjoying yourself?

*Participant:* You're still enjoying yourself but you got your mind set on what you want to do before.

*Facilitator:* Let me ask you this, in terms of folks you know, what is it they intend to do before it's over?

*Participant:* We have many here. I can't speak for women 'cause the women can be thinking on the same track.

*Facilitator:* Speak for the men that you know.

*Participant:* The majority in here is not going to spend their hard-earned bucks and go out and get a kiss good night. At least I'm not going to do that.

*Facilitator:* What are you going to get?

*Participant:* I'm going to get a [lady]. I spend my money. I'm going to tell you ahead of time what's going on.

*Facilitator:* You tell the lady?

*Participant:* You got to; it's a must. So they can't get dumb with you when it's time to go home. You must plan your evenings or your affairs ahead of time. You wine and dine or go to the movies, whatever activity you're spending your money on. You got to spend money. The evening goes on and then you return to a relaxing, quiet, reasonable type of space and then things go further.

*Facilitator:* In other words, you have sex?

*Participant:* Yes, there you go bump them.

*Facilitator:* In your opinion that's what dating's about?

*Participant:* In my opinion that's what 95% out of 100 is about.

The second and third participants' responses, which follow, were similar.

*Facilitator:* What do you think about dating?

*Participant:* I think the same way that he does. If I spend some money on a lady, I don't expect it to happen the first night, but after a while goes on.

*Facilitator:* What do you mean "after a while goes on"?

*Participant:* As I'm spending my money and time goes on to another day, I expect me and her to have sexual intercourse.

*Facilitator:* You say "as time goes on." How much time, dates?

*Participant:* I would say 3 dates.

*Facilitator:* On the third date she has to come through?

*Participant:* Yes.

*Facilitator:* Thank you very much. (To the other participant.) Now, what do you think?

*Participant:* I'm not a dating person myself. If it was up to me to go out on a date, I would wine her and dine her. If you're going to go on a date you have to let them know up front. What we gonna do. We're going to go out and have dinner, a movie, come back home, you go

home and I go home or are we going to spend the night together? If she say no, fine, I'll go home. I'll give them a week. After a week, that's it. If I ain't got nothing after a week, there ain't no use in you seeing me. Some people go six months. After that week, that's it.

The fourth participant was equally revealing:

*Facilitator:* What do you think about dating?

*Participant:* I'm a man just like she's a woman. I feel that if I'm going to spend my time and money, something got to kick off. Something got to give because I'm not just going to set around and give you my money. Just like if she were to take me out, she's not just going to spend her money on me and I'm just going to pull up.

*Facilitator:* Does that occur sometimes, where she pays for the date?

*Participant:* Yes, it's happened to me occasionally.

*Facilitator:* You said that sometimes she takes you out. Does she have the same intent?

*Participant:* We go out, eat, and next thing she's going to ask me is, well, I know you're not going home. The first I'm going to tell her is you know I'm not going there. I'm going to your place. I'm going where you're going. I got a little boy now and if I could make another one and you pay for it, I'm going to make it.

The consensus among these young men, including the very young and the experienced, was that dating and sexual intercourse are synonymous. Although two of the participants were resistant to the notion, most of the group welcomed the view that "nowadays, dating is about sex" and "you can't stand on the corner with a bunch of your boys and be the only virgin." Additionally, these young men agreed that on dates "you give a little, and take a lot."

When the session moved to the use of contraceptives, the young men were, again, most explicit. The introductory question was: "If you're having sex already, then should you use contraceptives?" The first participant replied, "If you want to, but nowadays they don't." Yet, almost everybody felt that someone in the relationship should use contraceptives. One participant said, "A lot of girls don't like men to use rubbers."

One young man said "Somebody should be using something, but it won't be me," and the facilitator asked: "Why not?" The following dialogue ensued:

*Participant:* Because for the X amount of minutes or hours you're going to be in a very uncomfortable stage and you're not going to really enjoy yourself. It stops the blood circulation for one. It won't be me that's using it, I'll tell you straight up. Now if she have enough pride to enjoy herself because she is going to be the one having the baby, I'm not going to be having it. I'm just going to be a participant. The

woman should take the extra precautions of taking something to better protect herself.

*Facilitator:* Why?

*Participant:* Because if she don't protect herself, nobody else is going to help her.

*Facilitator:* I see. Thank you very much. (To another participant.) What do you think?

*Participant:* It all depends on if it's my main lady. If it's my main lady, I don't want her using nothing, to tell you the truth.

*Facilitator:* Why not?

*Participant:* Because I want everything to be natural.

*Facilitator:* You want everything to be natural?

*Participant:* Right.

*Facilitator:* But with somebody else?

*Participant:* I expect them to be on something, because I don't want to go out there and get them pregnant.

*Participant:* You might have a little ugly piece one night, you know. Tell her to put a mask on her face.

*Participant:* She should have something.

*Facilitator:* But not you?

*Participant:* Not me.

*Participant:* Simple as that. Ask me why, because if she don't want no kids, she better do something to keep from having them. It don't make me no difference whether she have one or not. If she have one and I decide, alright, I don't want to keep it and she says she's going to keep it, shoot, I don't have to take care of it. As far as she don't want none and all this mess and I don't want none, I'll tell her to use a pill, cross your legs, get away from me.

*Facilitator:* (To another participant.) What about you?

*Participant:* Well, I half and half. I'm for the pill and I'm against it because you smoke, right, and if you were taking the pill, the pills, I don't know what it is. There's something happening now with those pills. And then those things that they put up inside them, they slip or if she have it up there too long, something goes wrong. My main lady, hey, we can have all the kids we want. If she got pills, I'm throwing them in the trash. I love kids. We'll probably have 19 by the time I'm finished.

*Facilitator:* Do you think, then, other than with your main lady, you ought to use contraceptives?

*Participant:* Me use contraceptives? Oh no! I can't put nothing on. I got to go bare back. I got to feel every motion of this. When we lay down, I want her to feel good. I want her to feel so good that the next time she sees me she's going to be knocking on my door.

In summary, there seems to be little doubt that these young men, with the exception of one, would refuse to use condoms and felt it was the girl's responsibility to prevent pregnancy. As one young man said, "If she don't want to get pregnant, she should use something."

## On Services

A major goal of the study was to ascertain from the young men the services they felt should be in the Model Adolescent Pregnancy Center at Temple University. One of the most significant findings was the strong feeling expressed that the services be equally available to them. In fact, they were very adamant, almost hostile, in their demand for the services.

Some of the hostility emanated from the lack of attention given to them by most institutions, beginning with their homes. There were many complaints about the father's absence from the home and what that does to a young man. The following discussion reflects this feeling:

*Participant:* I think, me growing up, I haven't had a father. I'm in contact with him and everything. I think that fatherly love and that image he gives off to a son, it's important.

*Facilitator:* What do you mean "image"?

*Participant:* That fatherly love, there's something about it. Your mom is always going to be there, but your father is a role model you can look up to.

*Facilitator:* What do you think happens when you don't get that?

*Participant:* It makes you angry. You start doing wicked things.

*Participant:* You probably start going out stealing, fighting, because you don't have that male model to look up to.

Although it is not stated explicitly in this exchange, these young men did reveal that they want the institute to serve as a catalytic agent, providing direct services and articulating their needs to the local community and the nation. The following requests for services were made:

1. Job training and placement for teenage fathers. (Computer training and auto mechanic vocations were highlighted by fathers.)
2. Vocational counseling.
3. Educational services (GED program, academic and vocational classes at the Model Center).
4. Medical services (should include testing and treatment of social diseases).
5. Nutrition information. (Fathers need information to better understand nutritional needs of the young mother and baby.)
6. Child day-care service.
7. Parenting skills for both parents. (Fathers get no help on how to be good fathers, even though they want to love and care for their child. No one teaches them anything about child growth and development. They are concerned about child

abuse and neglect and need to be helped to avoid such possibilities.)

8. Family planning. (Sex education and assistance on birth control methods should be included at the center for the fathers as well as the young mothers.)
9. Peer, individual, group, and family counseling (for fathers and the families of the fathers).
10. Recreational activities (including sports such as basketball, baseball, and weight lifting).

## CONCLUSIONS

This study was conducted to obtain essential information for creating a Model Adolescent Pregnancy Center at Temple University. Unlike many other institutions, the university wanted to get its direction from the indigenous group—the teenagers and parents themselves. This report set forth the results of focus group sessions with black male teenagers.

A second element of the study was to test the utility of the focus group method in designing service programs. The findings clearly demonstrate that focus group studies are indeed a viable technique for obtaining pertinent information and direction in planning teenage pregnancy and family life programs.

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# 1

## Boys as Fathers: Coping with the Dilemmas of Adolescence

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Little is known about the effects of having a child during adolescence on the later development of teenage fathers, and even less is known about the parental and spouse behavior of these males. Popularly held notions that a pregnancy during adolescence adversely affects the subsequent development of teenage fathers and that these males are poor husbands and inadequate fathers are premature. Although the data that do exist generally support these ideas, the empirical evidence is meager. Males who become fathers during adolescence, in comparison to those who do not, appear to be somewhat more likely to divorce (Kellam, Adams, Brown, & Ensminger, 1982; Moore & Waite, 1981), abandon their partners and babies, and suffer later educational, vocational, and economic losses (Card & Wise, 1978; Lorenzi, Klerman, & Jekal, 1977; Marsiglio, Chapter 5). The magnitude of these group differences is not large, however. Further, much variation exists in the impact that fatherhood has on adolescents, and not all males are adversely affected to an equal degree. Lastly, these findings are neither substantively nor methodologically incontrovertible, and more work is needed to identify the immediate and long-term effects of teenage pregnancy on adolescent fathers.

Besides identifying the consequences of becoming a father during adolescence, explanations are needed that account for the association between fatherhood and its various stresses and problems. One reasonable and commonly held belief among many researchers and practitioners who focus on adolescent parents is that the problems these teenagers experience are to some extent the result of their youth. The following excerpt from Elster, McAnarney, and Lamb (1983) illustrates this point: "Because of the adolescent's age and because of the stressful events that frequently accompany youth pregnancy and parenthood, clinicians and investigators have questioned the ability of adolescents to parent

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their young in a way that promotes optimal child development" (p. 494); and, according to Hendricks, Howard, and Caesar (1981): "Pertinent [stress] factors for the unmarried adolescent father are: the nature and outcome of each father's struggle with . . . [the] dilemmas of adolescence" (p. 733). Some researchers use phrases such as "premature parenthood" (McAnarney, Lawrence, & Aten, 1979) and "early motherhood" (Bacon, 1974) to convey the idea that parenthood can occur before an individual is ready to assume its burdens, that is, during adolescence.

The reasonable idea that youth is in some ways its own problem is a hypothesis in need of verification. Yet before this idea can be tested, the adolescent period itself needs to be considered and the various factors that influence adolescent behavior identified. The purpose of this chapter is to examine these issues and to do so in a developmental context. Just what are the "dilemmas of adolescence," and how might they account for the adversity experienced by some adolescent fathers?

What does it mean to be an adolescent? This straightforward question does not have a simple answer. Webster's New Collegiate Dictionary defines "adolescence" as "the period of life from puberty to maturity terminating legally at the age of majority." As this definition makes clear, adolescence is a multifaceted concept. Chronological age is one component of the definition of the adolescent period, but adolescence cannot be reduced to the teenage years. Puberty marks the beginning of this period, but the cessation of biological growth is not generally regarded as its end. Many new psychological abilities appear during adolescence, but which ones signal entry into adulthood has not been clearly established. Adolescence is a legal concept, but its beginning and end cannot be legislated. Lastly, adolescence is a sociological concept closely bound with normative expectations about when certain life-course events should occur in a society, but its end is not merely graduating from high school, full-time employment, and marriage. The definition of adolescence includes all five of these components, and an adequate understanding of the behavior of adolescents and of the problems they experience requires that we examine each.

In this speculative chapter the components of the adolescent experience are briefly discussed and their relevance for understanding the problems of adolescent fathers are considered. In the five sections that follow the possible ways that chronological age, biological development, psychological maturity, legal status, and life-cycle events might affect the behavior of adolescent fathers are examined.

## FIVE COMPONENTS OF THE ADOLESCENT PERIOD

### Chronological Age

In everyday speech, many people consider adolescents to be teenagers and use the terms synonymously. It is not difficult to understand why. The teenage years are positively correlated with the unfolding of many significant biological and psychological events. For example, in modern societies puberty begins a few

years before age 13, on the average about 11.5 years for girls and 12.5 for boys in the United States, and biological growth ceases at about 19 years of age (Tanner, 1978). Further, during the teenage years several advances occur in cognitive development (Inhelder & Piaget, 1958), moral judgment (Colby, Kohlberg, Gibbs, and Lieberman, 1983) and concerns about the self (Erikson, 1968). Also, schools provide institutional support for the notion that 13-year-olds are no longer children and 19-year-olds have entered adulthood, because these are the approximate ages when most students enter junior high school and graduate from high school. Lastly, research and common knowledge reveals the existence of an "adolescent society," with its own norms, language, and leisure activities (Coleman, 1961), which emerges during the teenage years and centers around high school life.

Although age is correlated with the appearance of many psychological abilities and is used as a basis to group students in age-graded schools, it is a poor developmental concept. The problems of using age as a developmental construct are numerous. First, large individual differences exist in the ages at which an ability first appears. To take just one example, in a longitudinal study of 94 normal females who were teenagers between 1934 and 1946, average age of menarche was reported to be 12.8 years, with a range between 10.5 and 15.8 years of age (Faust, 1977). Using age 13 as the initiation of adolescence includes some girls in this category who are premenarcheal and excludes others who are post. Age 13 is a rough approximation of the beginning of puberty in this group, but, as a scientific construct or as a criterion to decide who is normal and abnormal, the mismatch between marker and event is too great for age to be of much use.

A second limitation of using age to define adolescence is that age does not *cause* the characteristic to appear or the behavior to occur. An individual's age merely marks the passage of time during which genetically controlled biological sequences unfold, and more and different social experiences occur. When biological events such as puberty or psychological characteristics such as identity concerns occur at approximately similar ages among adolescents, it is because of similarities in physical maturation and social experiences.

Individuals of different ages can be justifiably classified into a single age-category only if they are alike. This can occur if the individuals are close to each other in age, if little or no biological change is occurring, and if their social experiences are similar. On all three of these accounts classifying teenagers into a single category is inappropriate. The 6-year age span between 13 and 19 years is long, and this period is marked by rapid biological change and many new social experiences.

The further implication of this line of reasoning is that the term *adolescence* itself may not be a useful scientific concept. Increasingly, developmentalists are finding it necessary to split the adolescent period into "early" and "late" because of the vast biological, psychological, and social differences between youth who are experiencing puberty and those who are some years past these events but not yet considered adults.

Biologically, youth classified as "early adolescents" are in the midst of sexual maturation and a rapid growth spurt. These biological changes appear to lead to heightened concerns about body image (Hamburg, 1974), self-consciousness (Elkind & Bowen, 1979), and some disruption of self-concept (Dusek & Flaherty, 1981). Relations with parents deteriorate somewhat and adolescents become more powerful vis-a-vis their parents (Steinberg, 1981). Peers take on an added importance and interest in the opposite sex increases (Berndt, 1982). Cognitively, the early stages of scientific thinking appear and adolescents develop more sophisticated information-processing abilities (Keating, 1980). During this period adolescents complete elementary school, with its single classroom learning environment, and stable peer group, and enter junior high school, or middle school, with new social rules, changing classrooms and teachers, and new peers.

The situation in "late adolescence" is different from that encountered earlier. During this period the tempo of growth slows and is completed. Most youth finish their secondary education and many experience an "identity crisis" as they consider their various educational, employment, and life-style options (Offer, Marcus, & Offer, 1979). Achieving independence from parental influence becomes an important issue (White, Speisman, & Costos, 1983). During this time most youth leave home and begin to function more autonomously (Montemayor, in press). A sexual relationship may be entered into for the first time and decisions about marriage are made (Jessor & Jessor, 1975; Miller & Simon, 1974).

The main justification for using age as a definition of adolescence is convenience. A research and service delivery population needs to be identified, and adolescent fathers have been equated with teenage fathers. The point of this discussion about chronological age is that teenagers are not a developmentally homogeneous group. The issues of concern to younger and older teenagers and the biological and social factors that control their behavior are different. Researchers interested in identifying the causes and consequences of teenage fatherhood, and providers of services to teenage parents need to recognize the developmental changes that occur between early and late adolescence.

### Biological Development

Adolescence is generally defined as the period of time between the initiation of puberty and the acquisition of the full rights and responsibilities of adulthood (e.g., Lerner & Spanier, 1980; Santrock, 1981). It is the period of life when an individual is sexually, but not socially or legally, an adult. Separating sexual capability from social maturity may have an evolutionary basis. Among the higher orders of nonhuman primates an adolescent period exists during which adult males prevent young postpubescent males from copulating with mature females (Savin-Williams & Montemayor, in preparation). Access to females is not a right but a privilege that male adolescents must earn by demonstrating their

physical fitness through combat. Adolescence is a testing period during which weak and puny males are identified and excluded from the reproductive community, thereby eliminating their genes from the gene pool.

Among humans, the most dramatic and visible of all the changes that occur during adolescence are those biological events that prepare individuals for parenthood. Increases occur in height, weight, and strength (Tanner, 1978). Both sexes show increases in muscle bulk and body fat, but the former is more marked for boys and the latter for girls (Tanner, 1962). Secondary sex characteristics appear, such as a widening of hip width and an increase in breast size for girls, and boys' voices deepen and they begin to grow beards.

Considerable change in hormonal secretions also occur during adolescence (Forest, DePeretti, & Bertrand, 1976; Winter, 1978). The first pubertal event is an increase in the secretion of gonadotrophic hormones by the pituitary gland, which causes the ovaries and testes to develop. Estrogen production remains roughly constant in both sexes until about age 7 years and then rises gradually. As adolescence begins in girls, estrogen production rises sharply and becomes cyclic. Estrogen levels also increase slightly in boys during puberty, but the main hormonal change is a large rise in testosterone secretion. In both boys and girls increases take place in the secretion of adrenal androgens, which are responsible for the emergence of some of the secondary sexual characteristics, particularly pubic and axillary hair.

As this brief description indicates, puberty is not a single event but a whole series of events that transform in a relatively short time an immature organism into one capable of sexual reproduction. This transformation is directly responsible for the problem of teenage fatherhood—without reproductive capability there can be no children. Reproductive capability and sexual behavior are not equivalent, however; although the first begins at puberty, the second has a prepubescent history, and most American adolescents have engaged in many forms of childhood sex play (Kinsey, Pomeroy, & Martin, 1948; Kinsey, Pomeroy, Martin, & Gebhard, 1953). Little is known about prepubescent sexual behavior, and one can only wonder whether differences exist in this area between males who do or do not become adolescent fathers. In general, it is not known whether the sexual behavior of adolescent fathers is in any way different from sexually active adolescent males who do not become fathers.

In addition to the relationship between puberty and sexuality, other adolescent behaviors may be affected by the biological changes that occur at puberty. Two models for the relationship between puberty and behavior have been proposed: (1) a *direct effects model*, in which it is thought that biological factors act directly on behavior, and (2) a *mediated effects model*, in which it is postulated that intervening variables exist between biological factors and behavior (Petersen & Taylor, 1980).

The scientific study of behavioral endocrinology has only recently begun, in part because of the difficulty of obtaining accurate endocrinological measurements (Beach, 1975). Some tantalizing findings have been reported on hormone-

behavior relations in adolescents, but the literature in this area is not extensive. Sex steroids have been implicated in the intensification of sex drive and sexual activity (Ehrhardt & Meyer-Bahlburg, 1975), and changes in social rank and dominance during adolescence (Lloyd, 1975). High levels of testosterone have been correlated with aggressiveness in adolescent boys (Olweus, Mattsson, Schalling, & Low, 1980). Recent research at NIMH has shown a positive relation between high-for-age pubescent endocrine changes and interest in dating, sexual behavior, spending time with friends, and some types of psychopathology. These results suggest that early endocrine changes may be stressors in the lives of young adolescents (Susman, Nottelmann, Inoff, Dorn, Cutler, Loriaux, & Chrousos, submitted). What is not well understood are the mechanisms through which hormones affect the brain and, in turn, the behavior of adolescents (McEwen, 1976).

A primary pathway by which biological events may indirectly affect behavior is through variation in the timing of puberty, resulting in age differences in physical appearance. Early-maturing boys generally have higher self-esteem, greater athletic ability, and better relations with parents and peers, especially girls, than their late-maturing peers (Clausen, 1975). The physical characteristics that are most strongly associated with these behavioral advantages are height and the presence of facial hair (Petersen, Tobin-Richards, & Boxer, 1983). The findings for girls are more complex but generally show that high self-evaluations and social status are related to being maturationally on time for every physical characteristic except breast development, where earlier is rated better and is related to high heterosexual status (Brooks-Gunn, 1984; Petersen et al., 1983). The explanation for these associations is almost certainly social and psychological rather than directly biological.

Little is known about the association between early puberty and sexuality, but it appears that early maturers become sexually active somewhat sooner and have more sexual experiences than late maturers (Gagnon, 1983). The early onset of sexual experience is not without its consequences, and girls who engage in sexual intercourse early in life are more likely to have premarital pregnancy (Rutter, 1980). Further, early-maturing boys tend to marry earlier than late-maturing boys (Clausen, 1975), perhaps because some of them become teenage fathers.

The relationship between biological change during puberty and aspects of teenage fatherhood has not been explored, although it is potentially significant. Is endocrinological variation in adolescent males directly implicated in the age of onset of sexual activity, its frequency, or the likelihood of impregnating a female, because of high sperm counts or large sperm volume? Are hormonal variations during adolescence directly related to aspects of fathering such as infant care or family violence? Do aspects of pubertal change indirectly affect adolescent fatherhood through variation in pubertal timing and differences in physique? Many questions exist in this area but as yet few answers.

## Cognitive and Psychological Development

In addition to biological change many cognitive abilities and psychological characteristics are transformed during adolescence. In this section cognitive development, identity formation, and the capacity for intimate relations are explored during the second decade of life. These three issues are focused on for two reasons: First, mature thought, a clear sense of purpose, and the capacity for intimacy are believed to be characteristics of adults; and second, deficiencies in these capacities may be related to problematic parenting during adolescence (Elster et al., 1983; Rogel & Petersen, 1984).

*Cognitive development.* At least four cognitive developmental trends have been found between childhood and adulthood: (1) increases in factual knowledge, (2) improvements in understanding of verbal material, (3) the development of sophisticated scientific deductive reasoning, and (4) the appearance of executive control ability (Sternberg & Powell, 1983). In this short section these developments can only be examined briefly.

Studies of cognitive development are mainly about changes in structure, process, and strategy. Besides transformations in cognitive processing, an enormous increase in knowledge also occurs between childhood and adulthood (Brown, Bransford, Ferrara, & Campione, 1983). The knowledge base includes information about the external world as well as one's internal cognitions. More than any other aspect of cognitive development, increases in knowledge are related to direct and vicarious experience rather than maturation.

Developmental changes have been found for both verbal and scientific reasoning. Distinguishing between the central and the extraneous in reading material is an ability that improves with age. Older adolescents are better able than children to identify the crucial elements of texts (Brown & Smiley, 1978) and as a result have better recall of textual material. Not only do adolescents show increased sophistication in literacy skills but also in the development of scientific and mathematical reasoning (Inhelder & Piaget, 1958; Siegler & Liebert, 1975). The thinking of children is more closely tied to concrete reality, whereas adolescents are able to examine possibilities not immediately present in a situation. Closely related to the separation of the real from the possible is the development of the ability to generate and test hypotheses (Keating, 1980).

In Piagetian theory cognitive development progresses from unconscious to conscious regulation of cognitive activity (Piaget, 1976). According to Piaget, mature learners can reflect on their own thinking and select learning strategies appropriate to a problem, whereas the strategies children employ are largely not accessible to their consciousness. This idea also has been called "metacognition" (Flavell, 1977), i.e., knowledge and control of cognition, or "executive control," by which an individual monitors his or her attempt to solve a problem.

These skills might be related to teenage fathering in several ways. For example, not only do teenagers know little about babies and development (DeLis-

sovoy, 1973), problems in themselves, but also they may be less able to profit as much as adults from printed material. Younger adolescents, especially, may have a difficult time acquiring and using information about child rearing contained in books and may depend more on personal experience and trial-and-error learning, potentially costly strategies when used with fragile infants.

In addition, adolescents have a difficult time keeping schedules and planning for the immediate and long-term future. Both of these deficiencies could interfere with effective infant care. Further, a "sensitive parent" has been described as one who can perceive the child's cues, correctly interpret them, and plan and implement an appropriate response (Lamb & Easterbrooks, 1981). These skills require the abilities to generate and test hypotheses, select a plan of action, and monitor its effectiveness. Most adolescents do not possess these abilities to a high degree.

*Identity development.* Erik Erikson's concept of "identity crisis" has been the central theoretical idea used by contemporary writers to organize much of the material on personality and social development during adolescence (Adams & Montemayor, 1983). According to Erikson (1968), the establishment of an identity involves the exploration of life choices and an eventual commitment to a career, an ideology, and a set of values. Erikson suggests that thinking about these issues begins early in life, reaches its ascendancy during adolescence, and is refined during the adult years. The ability to form intimate relationships and to engage in productive adult work is thought to be facilitated by the formation of a mature identity.

Research on identity development reveals that mature commitments are rarely made before early adulthood, and are uncommon even then. Most junior high school and high school students have either engaged in no identity activity or have made premature nonreflective commitments (Archer, 1982; Meilman, 1979). Thinking about one's identity and making choices increase between childhood and adulthood, but only about 20% of college students are classified as having achieved a mature identity (Archer & Waterman, 1983).

Family factors are highly related to the achievement of an identity and the father-son relationship is particularly important for males. For example, LaVoie (1976) reported that identity-achieved males in high school had fathers who were highly masculine, exerted a moderate degree of control, and often praised them. Other work suggests that identity achievers have fathers who are able to accept father-son differences, thereby creating a context conducive to identity exploration (Grotevant & Cooper, 1985).

Identity achievement is positively correlated with several personality characteristics and styles of interaction. Individuals who have achieved a mature identity are less susceptible to the influence of others (Marcia, 1980), have higher internal locus of control (Abraham, 1983), and tend to use postconventional forms of moral reasoning (Podd, 1972). These results suggest that individuals

who have achieved an identity are more independent, self-directed, and autonomous.

A teenage father with a diffuse identity may find it difficult to be an effective parent and husband. The lack of clarity about oneself, and the resulting lack of commitment to his baby and wife, could make it hard for the adolescent male to much care about learning how to be effective in his family roles or whether he succeeds. Further, not having a firm sense of self, the adolescent may compete with his own child for his wife's attention and feel threatened by and jealous of the interest she shows in their baby.

Besides the effect that identity diffusion might have on adolescent fatherhood, becoming a father during adolescence may affect subsequent identity development. Becoming a parent and marrying during adolescence close off opportunities for the adolescent and result in premature commitment, what is referred to as "identity foreclosure." Besides being a commitment without much exploration, adolescent fatherhood may be experienced as a forced choice. It is not known what effect adolescent fatherhood has on later personality development, but this question is important for understanding the effect that different contexts have on developmental trajectories.

*Interpersonal development.* According to Erikson, a major outcome of the establishment of a mature identity is the capacity to form intimate relationships. Loving another, in Erikson's view, is possible only after the development of self-knowledge. What little research has been conducted on this issue generally supports Erikson's theoretical prediction that identity achievement is positively related to interpersonal intimacy (Fitch & Adams, 1983; Orlofsky, Marcia, & Lesser, 1973).

Recently, White and her colleagues have argued that relationships vary along a maturity dimension (White, Speisman, Costos, & Smith, 1985). At the lowest level are relationships that are "self-focused" in which the individuals are primarily concerned about their own needs. Next are relationships dominated by conformity and conventionality, referred to as "role-focused." Lastly are "individuated-connected" relationships in which the individuals are psychologically separate from each other, but with intimate, reciprocal, and mutual emotional bonds. Age is correlated with relationship maturity, and individuals of any age who have not yet achieved an identity are most likely to have marriages of the first type. Couples in self-focused marriages have simple views of each other, expressed in sweeping judgments about right and wrong. Affect toward one's spouse also is simple and undifferentiated—love or hate, good or bad.

A fertile field of research would be to examine the factors related to teenage marital satisfaction and success. Little is known about these marriages, although understanding them should be an important goal in itself and may also lead to a deeper understanding of the problems of teenage parenting. Among adults, husbands who are happily married spend more time playing with their infants and

provide them with more emotional support than husbands less satisfied with their marriage (Feldman, Nash, & Aschenbrenner, 1984; Goldberg & Easterbrooks, 1984). The low capacity for intimacy found among most teenagers may be partly responsible for their marital dissatisfaction and discord may result in insensitive parenting.

### Legal Status

Between ages 14 and 21 years individuals acquire more and different legal rights and obligations than they had as minors. A short illustrative list of the ages at which states grant seven important rights to individuals is given in Table 1.1 (Guggenheim & Sussman, 1985). Two points are evident from this list. First, much variability exists in the ages when states allow these legally regulated behaviors. This lack of consensus reflects the inability of policy makers and social scientists to arrive at a "best" age to grant any legal right. The ages chosen, therefore, are a reflection of historical and political forces, which differ to some extent from state to state.

A second point evident from Table 1.1 is that legal adulthood is not acquired all at once, but gradually. Legal scholars consider age to be a "proxy" for an underlying attribute thought to be significantly related to the legally regulated behavior (Neugarten, 1981). In a general sense, that attribute might be called *competence* (Melton, 1983). Jurists argue that during the teenage years important improvements occur in the ability of developing individuals to make competent decisions, which make it appropriate to grant them new rights and expect increases in responsibility (Zimring, 1982). These improvements in competence are believed to be correlated with age (Melton, 1983). It is generally recognized by the legal profession that the use of age as a proxy involves a trade-off between expediency and accuracy (Stodolsky, 1981).

Teenage mothers and fathers are beset by a myriad of actual and potential legal problems, which could have important implications for how they behave as parents and marriage partners. For example, under Texas law a "parent" is defined as the biological mother, but a father's parenthood is established through marriage to the mother—the child must be conceived or born while the father is married to the mother (McKnight, 1982). An unmarried father has no legal rights over his illegitimate child. Further, a teenage father is a minor and has no obligations either. Because a teenage male is under no obligation to marry the mother of his child or support them, the decision to marry must be based on other than legal considerations. Research that examines the reasons why teenage fathers marry and the relationship between these reasons and later paternal and spouse behavior could be important for understanding individual behavioral differences. For example, do differences exist in the behavior of males who married either because they wanted to, felt morally obligated, or were pressured by parents?

TABLE 1.1  
Ages (In years) At Which States Legally Allow Various Activities

| State          | Activities |    |    |      |        |        |    |    |
|----------------|------------|----|----|------|--------|--------|----|----|
|                | A          | B  | C  | D    |        | E      | F  | G  |
|                |            |    |    | Male | Female |        |    |    |
| Alabama        | 19         | 14 | 14 | 18   | 18     | 16     | 16 | 16 |
| Alaska         | 18         | 18 | a  | 18   | 18     | 16     | 16 | 16 |
| Arizona        | 18         | 18 | em | 18   | 18     | 14     | 16 | 16 |
| Arkansas       | 18         | a  | a  | 18   | 18     | 16     | 16 | 16 |
| California     | 18         | 18 | a  | 18   | 18     | 18     | 16 | 16 |
| Colorado       | 18         | 18 | a  | 18   | 18     | 15     | 16 | 16 |
| Connecticut    | 18         | 18 | e  | 18   | 18     | no law | 16 | 18 |
| Delaware       | 18         | 18 | 12 | 18   | 16     | 16     | 16 | 16 |
| D. C.          | 18         | 18 | a  | 18   | 18     | 16     | 16 | 16 |
| Florida        | 18         | 18 | a  | 18   | 18     | 18     | 16 | 16 |
| Georgia        | 18         | 18 | af | 16   | 18     | 14     | 16 | 16 |
| Hawaii         | 18         | 18 | 14 | 19   | 16     | 14     | 16 | 17 |
| Idaho          | 18         | 18 | a  | 18   | 18     | 18     | 16 | 16 |
| Illinois       | 18         | 18 | a  | 18   | 18     | 18     | 16 | 16 |
| Indiana        | 18         | 18 | 18 | 18   | 18     | 16     | 16 | 16 |
| Iowa           | 18         | 18 | 18 | 18   | 18     | 16     | 16 | 16 |
| Kansas         | 18         | 18 | 16 | 19   | 18     | 16     | 16 | 16 |
| Kentucky       | 18         | 18 | a  | 18   | 18     | 16     | 16 | 16 |
| Louisiana      | 18         | 18 | f  | 18   | 18     | 17     | 16 | 15 |
| Maine          | 18         | 18 | a  | 18   | 18     | 14     | 17 | 15 |
| Maryland       | 18         | 18 | a  | 18   | 18     | 14     | 16 | 16 |
| Massachusetts  | 18         | 18 | a  | 18   | 18     | 16     | 16 | 18 |
| Michigan       | 18         | 18 | 18 | 18   | 18     | 16     | 16 | 16 |
| Minnesota      | 18         | 18 | a  | 17   | 18     | 16     | 16 | 16 |
| Mississippi    | 21         | a  | a  | 18   | 15     | 12     | 13 | 15 |
| Missouri       | 18         | 18 | a  | 18   | 18     | 16     | 16 | 16 |
| Montana        | 18         | 18 | f  | 19   | 18     | 14     | 16 | 15 |
| Nebraska       | 19         | 19 | 19 | 18   | 19     | 16     | 16 | 16 |
| Nevada         | 18         | a  | a  | 18   | 18     | 16     | 17 | 16 |
| New Hampshire  | 18         | 18 | 18 | 18   | 18     | 13     | 16 | 16 |
| New Jersey     | 18         | 18 | 18 | 18   | 18     | 16     | 16 | 17 |
| New Mexico     | 18         | 18 | 18 | 18   | 18     | 13     | 18 | 16 |
| New York       | 18         | 18 | a  | 18   | 18     | 17     | 16 | 17 |
| North Carolina | 18         | 18 | a  | 18   | 18     | 12     | 16 | 16 |
| North Dakota   | 18         | 18 | 18 | 18   | 18     | 15     | 16 | 16 |
| Ohio           | 18         | a  | a  | 18   | 18     | 15     | 18 | 18 |
| Oklahoma       | 18         | 18 | em | 18   | 18     | 16     | 18 | 16 |
| Oregon         | 18         | 15 | a  | 18   | 18     | 18     | 18 | 16 |
| Pennsylvania   | 21         | 18 | a  | 18   | 18     | 16     | 17 | 17 |
| Rhode Island   | 18         | 16 | 18 | 18   | 16     | 13     | 16 | 16 |
| South Carolina | 18         | 16 | a  | 18   | 18     | 14     | 16 | 16 |
| South Dakota   | 18         | 18 | 18 | 18   | 18     | 15     | 16 | 16 |
| Tennessee      | 18         | 18 | a  | 18   | 18     | 18     | 16 | 16 |
| Texas          | 18         | 18 | 16 | 18   | 18     | 17     | 17 | 16 |
| Utah           | 18         | 18 | 18 | 18   | 18     | 14     | 18 | 16 |
| Vermont        | 18         | 18 | 18 | 18   | 18     | 16     | 16 | 18 |
| Virginia       | 18         | 16 | a  | 18   | 18     | 13     | 16 | 16 |
| Washington     | 18         | 18 | 18 | 18   | 18     | 16     | 18 | 16 |
| West Virginia  | 18         | 18 | 18 | 18   | 18     | 16     | 16 | 18 |
| Wisconsin      | 18         | 18 | 18 | 18   | 18     | 15     | 16 | 16 |
| Wyoming        | 19         | 19 | 19 | 19   | 19     | 16     | 16 | 16 |

A--Age of majority

B--Age of consent for general medical care

C--May consent for contraception

D--May marry without parental consent

E--Age at which females may consent to sexual intercourse

F--Age under which school enrollment is compulsory

G--Age at which driver's license available

NOTE: a = any age; e = emancipated; f = female; m = married.

Source: Guggenheim and Sussman (1985).

Consider one further example, again in Texas. Individuals under the age of 18 years need parental consent to marry, even if the girl is pregnant (McKnight, 1982). The desire of two teenagers to marry is inextricably tied up with their relations with their parents. Presumably, parents make their decision based on an evaluation of the characteristics of their own adolescent and the suitability of the other. Ultimately it is the girl's parents who decide whether the boy may become the father of his baby. Parental involvement in the marriage of their teenagers can be a two-edged sword. In-laws may provide financial support and other forms of needed aid (Furstenberg, 1980), but they can be perceived by the teenagers as meddlesome or become a source of marital friction. Adolescent parents interviewed in one study reported that they found the unsolicited advice of parents and relatives to be more stressful than helpful (Barth, Schinke, Liebert, & Maxwell, 1981). Research on the effects that the families of married teenagers have on their marriage and child-rearing practices is needed.

### Participation in Adult Life Events

In addition to age, biological maturity, cognitive and psychological development, and legal status, another criterion used to differentiate adolescents from adults is passage through certain events that are generally considered by members of a community to indicate entrance into adulthood. Socially, individuals become adults when they have participated in certain life events and lead lives similar to those of most adults in a society. For example, because most adults in the United States are married and self-supporting, one might use as criteria for adulthood marriage and financial independence from parents. Using social criteria to define adulthood anchors the unfolding of the life cycle to a particular society during an historical period. In other societies or at other times adolescence and adulthood could be defined differently.

It is common to read that the period of transition from childhood to adulthood has been prolonged in recent times (e.g., Hopkins, 1983). For example, Aries (1962) states: "it (adolescence) encroached upon childhood in one direction, maturity in the other" (p. 30). Such statements seem to be based on the fact that on the average young people today are enrolled in school for a longer period of time than ever before. The median age of school departure was 14.4 years in the nineteenth century as compared to roughly 19 years in 1970 (Modell, Furstenberg, & Hershberg, 1976). As important as this life event is for socially defining adulthood, other events such as leaving home, marriage, and setting up a household are equally important. When all these status transitions are examined it does not appear that the period of youth has been lengthened. For example, Modell et al. (1976) studied the age at which five life events occurred for youth living in the nineteenth century and in 1970. The events were exit from school, entrance into the work force, departure from the family of origin, marriage, and the establishment of a household. "Youth" was defined as the period of time be-

tween the average age of attainment of one of these life events, and all five. For nineteenth-century Philadelphia males, youth lasted about 22 years, from 12.6 years to 34.3 years. Their counterparts in 1970 entered youth at 14.2 years and completed the series of transitions at 28.6 years, a period of about 14 years. For females the duration of youth was, and is, shorter, because it ends earlier through marriage. The period between childhood and adulthood appears to be shorter today than it was a century ago.

Over the past few years sociologists have paid increasing attention to the study of the life cycle, and the transition to adulthood. Two important conclusions have emerged from these investigations. First, the life cycle is normatively patterned. Age ranges around which many life-course events occur are narrow, and events unfold in a predictable sequence (Marini, 1984). Second, informal social support, and much formal social assistance, is organized around the normative life cycle. Therefore, major deviations in timing or sequence may be problematic for individuals due to a lack of informal and formal support (Elder, 1975; Neugarten & Danan, 1973; Teachman & Polonko, 1984). There is growing evidence that, in general, violating transition norms is related to subsequent non-normative transitions and later negative consequences such as reduced lifetime earnings and lower social status (Hogan, 1981).

Several interesting implications for understanding adolescent fathers follow from this perspective. Teenage fatherhood is a deviation from two important norms; it occurs early and out of sequence, i.e., before completion of high school and before marriage. Many of the problems associated with becoming a father during adolescence may be the result of these deviations. Specifically, the problems may be the result of the negative sanctions and ostracism of others in the community, and to a lack of real societal support.

There are few social advantages to being a teenage father and one doubts that a young male's social status is enhanced by it. More likely, fatherhood and marriage isolate males from their natural peer group. Preexisting personality and social differences, divergent life-styles, exit from the dating world, and an inability to participate in many afterschool and peer activities because of domestic responsibilities and the need to work would effectively remove adolescent fathers from their teenage social environment. To what degree this occurs and what effects it has on the ability of teenage fathers to adequately carry out their responsibilities as fathers and husbands are questions in need of research.

Besides a lack of social support, little real societal aid and support exist for teenage fathers. For most American men fatherhood occurs after finishing school, starting full-time employment, and marriage. Traditionally, a man's primary responsibility to his family has been to provide financial support. Teenage fathers are severely hampered in this regard because of their lesser educational attainment and poorer job prospects in comparison to males who did not become fathers before completing high school. Research is needed to identify what kinds of assistance teenage fathers are most in need of, and whether receiv-

ing this aid increases their immediate effectiveness as fathers and husbands and improves their future prospects.

### Intervention

Teenage fathers have many problems. They are young, are capable of sexual reproduction but not considered adults, are cognitively and psychologically immature, possess few legal rights, and are out of life-cycle synchrony with their peers. Clearly, an effective intervention cannot focus on only a single aspect of these multiple-problem individuals and their families. Two of these classes of problems seem especially important as bases for intervention—possible cognitive and psychological immaturity and being out of sequence with their cohort.

Programs designed to facilitate cognitive development, clarify identity issues, enhance the marital relationship, and teach parenting skills are all based on the idea that developmental immaturity is a significant cause of problematic parenting during adolescence. Few programs of these types targeted expressly for teenagers exist. Research on ways of accelerating development, improving relationship skills, and developing parental sensitivity in teenagers is needed.

The additional serious problem that teenage fathers face is early entry into parenthood and marriage before finishing school and developing good job skills. Interventions addressed to these problems have as their goal the eventual attainment of financial self-sufficiency. This would be achieved by providing tangible support, primarily financial assistance and child care facilities, so that adolescents can complete school and acquire marketable job skills. Experimental programs in this area, with an evaluation component, are needed.

### SUMMARY

Two broad perspectives have shaped theories and research on adolescence, and of what services need to be delivered to adolescent fathers—developmental and social. The period of adolescence has been defined by characteristics of the developing organism, which have included age, biological development, and cognitive and psychological functioning; and by social criteria such as legal status and participation in adult social experiences. Interventions designed to help teenage fathers and mothers based on the first perspective include clinical attempts to improve individual functioning, accelerate development, and enhance the parent-child and marital relationship. Examples of the second type are large-scale social programs designed to keep teenage fathers in school and teach job skills. To what extent the problems of adolescent fathers are the result of developmental or social factors is the overriding question awaiting further research.

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# 2

## Sex-Role Learning and Adolescent Fatherhood

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Aside from the unpreparedness for the concrete demands of early parenthood, adolescent parents must contend with varied degrees of ability and willingness to care for their children. At a time when issues of identity formation are paramount, it is not surprising that adolescent parents frequently express feelings of unpreparedness for and inadequacy in the parental roles (Hendricks & Montgomery, 1983; Ross, 1982). Whereas adjustment to parenting is a central concern for adolescent mothers and fathers, fathers may have an especially difficult time. As a result, many adolescent males seem ambivalent (at best) about fatherhood. In this chapter, we suggest that the ambivalence manifest by adolescent fathers may be attributed in part to aspects of male sex-role development. We explore this issue and examine the ways in which sex-role learning might predispose adolescent males to avoid situations calling for behaviors like child care that are stereotypically feminine. In our culture, of course, fatherhood is defined by economic and emotional support more than by nurturant caretaking, and here, too, the developmental status of the adolescent limits his readiness for a parental role. These tendencies to avoid feminine behavior and attempt to embrace the masculine role may become exaggerated in adolescence as a result of identity struggles and peer-group pressures, and this may create a special dilemma for adolescent fathers.

We begin the chapter with a discussion of contemporary gender-related stereotypes, with emphasis on those relevant to adolescent fatherhood. We then discuss processes of sex-role learning, before turning to two issues of central concern: The devaluation of femininity and the emphasis on breadwinning as a key aspect of masculine success. Finally, we review evidence concerning the behavior and sex-roles of adolescent males.

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## 3

## Risking Paternity: Sex and Contraception among Adolescent Males

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During the past decade there has been increasing public recognition that teenage childbearing is associated with reduced life chances for individual mothers and children and with substantial government expenditures for welfare, health care, and basic social supports. The evidence supporting these conclusions has accumulated in numerous research studies documenting the extent of the problem, its causes and consequences (Chilman, 1983; Moore & Burt, 1982). This research has, however, focused primarily on adolescent females. Whereas adolescent males are obviously an important factor in adolescent fertility behavior, surprisingly little research has documented or sought explanations for patterns of sexual activity, contraceptive utilization, or pregnancy resolution behavior among adolescent males. Similarly service interventions have largely ignored the male partners of adolescent girls.

Other chapters in this volume focus on adolescent males after parenthood is an accomplished fact. This chapter describes the state of current knowledge about the incidence of adolescent fatherhood and the conditions leading up to this status. Research findings about sexual activity and contraceptive utilization among adolescent males are reviewed to identify factors associated with the early onset of sexual activity and the nonuse of contraceptives. In addition potential intervention approaches designed to reduce adolescent pregnancy by involving male partners are discussed.

### EVIDENCE ABOUT THE INCIDENCE OF ADOLESCENT FATHERHOOD

The most remarkable fact about the research literature on male adolescent fertility behavior is that there is so little of it compared to the literature on female fertility. Although teenage pregnancy and childbearing is recognized as a press-

ing social problem and considerable research has been conducted on the fertility behavior of teenage girls, the male role in this process has not received much research attention. Even basic descriptive data are missing. There are few reliable national data on rates of sexual activity or contraceptive utilization among adolescent males, nor on the incidence of pregnancies and births attributable to them.

For instance, although there were over half a million births to females between the ages of 15 and 19 in 1981 (National Center for Health Statistics [NCHS], 1983), it is not definitively known how many of these babies were fathered by teenagers. Largely as a result of the high incidence of out-of-wedlock births, the age of the father is not listed on the birth registration forms for almost one-third (32%) of these births. As a result, the nation's vital statistics data system, the major source of information about the incidence of births to adolescent females, cannot generate comparable information for adolescent males. In 1981, the vital statistics did indicate that 45% of all babies born to teenage women were fathered by men between the ages of 20 and 29 years of age, and men over 29 accounted for another 2% of the births. In only 19% of the cases were fathers recorded as being 15- to 19-years-old (NCHS, 1983). Whereas the proportion of births with no age of father listed is quite large, these data show that the incidence of adolescent fatherhood is not as extensive as the incidence of adolescent motherhood. At least 47% percent of the babies born to females between 15 and 19 years of age have fathers that are 20 years old or older.

These overall statistics mask large racial differences. Among white female adolescents (15-19 years-old) bearing children in 1981, 55% of the babies were fathered by males who were out of their teens, 22% were fathered by teenage males (15-19 years old) and 22% had no stated father's age. Among comparable black women 26% of the babies were fathered by men out of their teens, 14% were fathered by teenagers, and a full 60% did not have an age of father registered. There is no way to determine how many of the fathers with no age designation were actually teenagers, although one suspects that teenagers are overrepresented among these cases. However, over half the babies of white teenage mothers and one quarter of the babies of black teenager mothers were known not to have teenage fathers in 1981 (NCHS, 1983). Clearly the partners of adolescent mothers are not always adolescent males.

In 1981 there were 129,336 babies born to fathers who were registered as under 20 years of age (NCHS, 1983) and there were probably many more teenage fathers for the babies whose fathers' ages were not stated on the birth registration form. Until quite recently no data other than vital statistics were available to describe the fertility patterns of adolescent men. However, a national longitudinal study of over 12,000 youth ages 14 to 21 in 1979 when the survey began (the NLS) has asked both male and female respondents about their birth histories (Mott, 1983). In 1982 the cumulative rates of first births were 2% among 18-year-old men, 4% for 19-year-olds and 7% for 20-year-olds. These rates are clearly lower than birth rates for like-aged women; 9.5% of the 18-year-old women and 15.5% of 19-year-old women reported first births.

Birth rates among the men varied by race and ethnicity. Among 18-year-olds only .9% of white men had first births compared to 3.5% for Hispanics and 6.3% for blacks. By age 19, 11.8% of black males were reporting births compared to 2.5% of whites and 6.3% of Hispanics.

Whereas these data are the best available, Mott (1983) reports that almost half of all the fathers in the sample had at least one discrepancy in their retrospective birth reports when these were compared to information provided in earlier surveys. An important reason for these discrepancies was the high proportion of fathers not living with their children, a situation suspected to generate less awareness about specific birth dates. In addition a substantial proportion (25%) of men not living with their children reported children in 1982 whom they had not acknowledged in earlier surveys. Even men living with their children were not as accurate about reporting birth histories as the women were. Because more children have appeared in the male sample as time has passed, further increases in the number of reported children might be expected in later survey years. In addition an unknown proportion of the men may be unaware of children that they have fathered. Consequently the birth rates for teenage men reported for the 1982 NLS survey may be conservative.

Because no other nationally representative data have been published describing the teenage men who bear children, we must look to the research literature on sexual activity and contraceptive use among teenagers to develop a profile of the likely characteristics of teenage fathers. If a profile of adolescent males likely to engage in early sexual activity without using contraceptives can be generated, then we will be closer to describing those adolescents at risk of becoming fathers. Because 40% of teen pregnancies resulted in abortions in 1980 (Henshaw & O'Reilly, 1983), this approach is far from perfect. However, it must suffice until better data are available.

### EVIDENCE ABOUT SEXUAL ACTIVITY AMONG ADOLESCENT MALES

Whereas the dramatic 10-year rise in the proportion of adolescent women experiencing coitus has been documented in detail (Baldwin, 1976; Chilman, 1983; Zelnik & Kantner, 1980), the data on the rates of sexual activity among adolescent males are significantly less complete. For a nationally representative sample of women, Zelnik and Kantner (1980) report a two-thirds increase—from 30 to 50%—in the proportion of metropolitan women ages 15 through 19 who have ever had coitus between 1971 and 1979. Among 15-year-olds, the proportion rose from 11 to 18% for white females and from 31 to 41% for black females.

Comparable data on recent trends in the sexual activity for young men are simply not available. In 1979 the first nationally representative sample of males ages 17 through 21 was surveyed as a counterpart to the national survey of young women. For the first time reliable national data on the incidence of sexual

TABLE 3.1  
Percentage of Never-Married Metropolitan Women and Men Ages 17-19 Years  
in 1979 Who Have Ever Had Intercourse by Race

| Age | Total |         | White |         | Black |         |
|-----|-------|---------|-------|---------|-------|---------|
|     | Males | Females | Males | Females | Males | Females |
| 17  | 55.7  | 48.5    | 54.5  | 44.1    | 60.1  | 73.3    |
| 18  | 66.0  | 56.9    | 63.6  | 52.6    | 79.8  | 76.3    |
| 19  | 77.5  | 69.0    | 77.1  | 64.9    | 79.9  | 88.5    |

Source: Tables 1 and 2, Zelnik & Kantner, 1980.

intercourse among young men were available. That year 56% of never-married metropolitan 17-year-old men had experienced intercourse as had 66% of 18-year-olds and 77.5% of 19-year-olds (Zelnik & Kantner, 1980).

Table 3.1 provides the percentage with coital experience for men and women by age and race. These data show that although more black women are likely to have had intercourse than their white counterparts, similar differentials between black and white males are not as marked. Among white respondents, males are more likely to have had intercourse than females of the same age; in general among black respondents, females are more likely to have had intercourse than males. The percentage point differences between the sexes are not very large and never more than 13 points.

Although these data present the first nationally representative picture of the incidence of coitus among unmarried male teenagers, the absence of earlier comparable data sets and the exclusion of males under age 17 from the sample limit its utility. Although it is known that proportionately more young women were sexually active in 1979 than in 1970, these comparisons cannot be reliably constructed for adolescent males. In looking at trends in sexual activity some observers have speculated that male adolescents' involvement in sexual intercourse has not changed much since Kinsey and his colleagues collected their data in the 1940s (Diepold & Young, 1979). Others have noted a decline in the proportion of male teens who are sexually active since the Kinsey survey (Miller & Simon, 1974). Yet another researcher reports an increase in nonmarital intercourse rates among white males between 1967 and 1974 (Chilman, 1983). The paucity of data makes it extremely difficult to determine what the trends in male adolescent sexual behavior have been over the past four decades. There is general consensus, however, that the adolescent female rates of coitus have increased and that the male and female adolescent rates of participation in sexual intercourse are converging.

Although there are no nationally representative data on the rates of engagement in sexual activity for males under age 17, there have been a number of scattered studies of sexual behavior, most conducted in specific localities, that have included younger male adolescents as respondents (Chilman, 1983; Diepold & Young, 1979). Table 3.2 lists these studies' findings about the proportion of

15-year-old males who have had premarital coitus. The findings for 17-year-old males are also included because national data for 1979 are available for this group (Zelnik & Kantner, 1980). The table shows that there is no consistent pattern over time or from place to place on reported sexual activity for 15-year-old males. As few as 8% and as many as 89% of 15-year-old males are reported to have had intercourse. The differences undoubtedly reflect variations in meth-

TABLE 3.2  
The Findings of Selected Studies Regarding the Percentage of  
Adolescent Males Who Have Had Intercourse by Ages 15 and 17

| Studies Published Since 1970   | Age             |                 |
|--|-----------------|-----------------|
|  | 15 Years        | 17 Years        |
| Vener, Stewart, & Hager (1972)<br>3 Michigan communities in 1969   |                 |                 |
| Professional (N = 611)   | 19              | 31              |
| Socioeconomically mixed (N = 989)  | 26              | 38              |
| Blue collar (N = 531)  | 25              | 31              |
| Vener & Stewart (1974)<br>Resurvey of socioeconomically<br>mixed Michigan community in<br>1973 (N = 937) | 38              | 34              |
| Sorenson (1973)<br>Nationally representative cluster<br>sample, 1972 (N = 214)                           | 40              | 55              |
| Miller & Simon (1974)<br>Random sample of Illinois youth<br>in 1969 (N = 990)                            | 8               | 21 <sup>a</sup> |
| Finkel & Finkel (1975)<br>Three high schools in northeast<br>city (N = 421)                              |                 |                 |
| White  | 36              | 48 <sup>a</sup> |
| Black  | 79              | 84 <sup>a</sup> |
| Hispanic   | 69              | 75 <sup>a</sup> |
| Jessor & Jessor (1975)<br>Random samples of students in a<br>Rocky Mountain city (N = 186)               | 21 <sup>b</sup> | 33 <sup>c</sup> |
| Ross (1979)<br>Availability sample of New York<br>City youth (N = 304)                                   | 83              | 81              |
| Zelnik & Kantner (1980)<br>Nationally representative sample of<br>metropolitan youth in 1979 (N = 843)   |                 |                 |
| White  | --              | 54              |
| Black  | --              | 60              |
| Clark, Zabin, & Hardy (1984)<br>Two inner city, black schools in<br>Baltimore in 1983 (N = 336)          | 89              |                 |

Sources: Table 5, Diepold & Young (1979) and Table 5.1, Chilman (1983).

<sup>a</sup>16- and 17-year-olds

<sup>b</sup>10th grade

<sup>c</sup>12th grade

odology, sample composition and geographic location among the studies, and it is difficult to pinpoint which are the most important sources of variation.

Although conclusions about the typical sexual behavior of U.S. teenage males cannot be drawn from these studies, those that have found high rates of sexual activity among the 15-year-olds are of special interest (Finkel & Finkel, 1975; Ross, 1979; Zabin, Hirsch, Smith, & Hardy, 1984). These studies demonstrate that there are schools especially in some inner cities where most of the males become sexually initiated at early ages. Finkel and Finkel (1975), for instance, report that the males in their northeast city high school sample initiated coitus at a mean age of 12.8 years. Clark, Zabin, and Hardy (1984) report a mean age of 11.8 for black male students in a Baltimore high school and a junior high school. Billy and Udry (personal communication) have communicated their difficulty in studying the sexual initiation of black males because approximately 80% of the seventh graders in their southern city junior high school sample were already sexually active.

National data indicate higher mean ages of first intercourse than these individual city samples. The mean age of first coitus for white males, 17-21 years old in 1979, was 15.9 years; the mean age for black males was more than 1 year younger—14.4 years (Zelnik & Shah, 1983). Clearly the average black teenage male initiates intercourse at an earlier age than a white male. Sexually active women (15-19 years old) reported older ages at first intercourse than the men. The mean age of first intercourse was 16.4 years for white women and 15.5 for black women.

Both male and female teenagers tend to have their first sexual experience with partners older than themselves (Ross, 1979; Zelnik & Shah, 1983). The male partners of both black and white females are on average 3 years older; the female partners of both black and white males are 1 year older (Zelnik & Shah, 1983). The pattern among women is consistent with the finding reported earlier that almost half the babies born to teenage mothers are fathered by men out of their teens.

### Other Determinants of Sexual Activity

Although studies indicate that teenagers engage in sexual activity earlier if they are male, and if they are black, there are also a number of other factors associated with the early initiation of sexual activity among adolescents (Chilman, 1983; Moore & Burt, 1982). Some of these factors appear to affect both sexes in the same way, others operate differentially for males and females. Among the factors that have been found to be associated with earlier initiation for both sexes are: less religiosity (Chilman, 1983; Devaney, & Hubley 1981; Moore & Caldwell, 1976; Mott, 1983); lower educational achievement and goals (Devaney & Hubley 1981; Jessor & Jessor, 1975; Miller & Simon, 1974; Mott, 1983); more frequent dating, going steady, or being in love (Chilman, 1983; Delameter &

MacCorquodale, 1979; Sorenson, 1973); and earlier onset of biological puberty (Billy & Udry, 1983; Diebold & Young, 1979; Zelnik, Kantner, & Ford, 1981).

Whereas early pubertal development is associated with early sexual activity, Hofferth (forthcoming) points out that there are probably distinct differences between white and black males in the influence of maturation on the timing of sexual intercourse. For white adolescent males, pubertal development is a very strong predictor of sexual activity; and recent evidence from the work of Billy, Morris, Groff, and Udry (1984) indicates that hormone levels may be the reason for this strong relationship. In contrast, among black males the relationship between pubertal development and sexual activity is weak. Indeed, a large portion of black males initiate intercourse prior to puberty (Westney, Jenkins, & Benjamin, 1983; Zabin, Street, & Hardy, 1983). Hofferth suggests that social influences may be more important in explaining sexual activity among black males than among white males; however, she cautions that social factors are undoubtedly also important in mediating the effects of maturation for white males.

Early premarital sexual activity is associated with low-income status in general, and the association is even stronger when low-income status is associated with being black. Chilman (1983) discusses the interconnectedness of racism, poverty, and the lack of educational attainment in generating high rates of premarital sexual intercourse among black teenagers. Yet another associated factor is living in single parent families. Adolescents from families headed by a single parent are more likely to initiate sex early (Moore & Caldwell, 1976; Ross, 1979; Zelnik, Kantner, & Ford, 1983) and these families are more likely to be poor (Ross & Sawhill, 1975). In addition black families of adolescents are more likely to be headed by single parents.

Few studies have attempted to disentangle the interrelated effects of race, income, single-parent family status, and educational goals and achievement in explaining early sexual initiation. Mott (1983) reports preliminary results from a regression of a sexual activity variable on race, ethnicity, and poverty status as well as a number of other important predictor variables. In his national sample of young men and women he found that "even after controlling for various socioeconomic factors in the model, black male and female respondents have above average levels of sexual activity." Ross (1979) found that coming from a single-parent family had an effect on sexual activity independent of the income and employment status of the parent in a sample of teenagers from New York City.

Moore, Simms, & Betsey (1984) investigated whether lower educational aspirations explain the higher rates of sexual activity, pregnancy, and parenthood among blacks. They conclude that black and white youth have equally high educational aspirations, and therefore differences in aspirations cannot account for higher pregnancy rates among black teenagers. Citing the work of Hogan and Kitagawa (1983) comparing black adolescents growing up in different areas in

Chicago, they speculate that many factors that independently predict early child-bearing are concentrated in poor neighborhoods where many black children are particularly likely to grow up. The effect of these factors—lack of contraceptive information, poorly educated parents, school dropouts, poor employment prospects, and single-parent families—on teenage fertility behavior may be greater when aggregated in a neighborhood than the simple sum of their separate effects would suggest. Clearly much more research and analysis must be conducted before the independent and combined effects of race, poverty, educational attainment, and single-parent family status upon teenage fertility can be adequately described and explained.

### Male and Female Differences in Determinants of Sexual Activity

Although a number of factors have been found to predict early sexual initiation for both sexes, there are other dimensions on which sexually active male and female adolescents differ. Many authors have described the differences between the sexual scripts prescribed by society for males and females. For example, Byrne (1983) describes the sexual double standard that socializes males "to seek sexual contact, to evaluate each female as a potential sexual partner, to initiate sexual intercourse whenever possible and to assume that conception and its prevention are for the female to worry about." Females, on the other hand, are taught that love is a prerequisite for sexual intercourse and that they should control how far the male goes.

Early adolescence is the time when these sexual scripts are learned (Gagnon & Simon, 1973). In response to their awakening sexual maturity, boys are encouraged to seek sexual activity and achievement; girls are discouraged from sexual activity and urged to define emerging male-female relationships in terms of romantic love. To the extent that these sexual scripts are actually taught and enforced in society, the act of first coitus will have different meanings for males and females and will undoubtedly be associated with different facilitating attitudes, circumstances, and perceptions.

Nationally representative data about young men's and women's relationships with their first sexual partners provide testament to the vitality of the sexual scripts just described. Among women 15-17 years old at the time of first intercourse, 71% were either engaged or going steady with their partners. Among like-aged men, only 47% were engaged or going steady (Zelnik & Shah, 1983). A similar difference between the sexes has recently been reported in a survey of selected Baltimore schools (Zabin, Hirsch, Smith, & Hardy, 1984).

Whereas the proportion of males having first intercourse within a committed relationship is lower than the proportion of females, the fact that close to half the males were either engaged or going steady does show that the stereotypical view of all males as sexual opportunists is not fully supported by the data. Only 11%

of the males had first intercourse with someone they had recently met. Twenty-two percent were dating their first partners and 20% were friends. Zelnik and Shah (1983) note that considering males were an average 1 year younger than their partners, they were not surprised to find that a substantial group of males had their first sexual encounter with a friend.

There is some evidence that self-confidence or self-esteem operates differentially for males and females in predicting sexual activity among adolescents. For example, Miller, Brown, Crawford, Cvetkovich, Grote, Lieberman, & Poppen (n.d.) found in a three-city study of 16- and 17-year-old adolescents that high self-confidence was positively associated with having had sexual intercourse for both sexes. The correlation was, however, much higher for adolescent males. A somewhat similar finding is reported by Jessor and Jessor (1975). They found that males in their white high school sample who were nonvirgins had significantly higher self-esteem than virgin males. There were no differences between female virgins and nonvirgins on this dimension. Later longitudinal analysis confirmed that significantly higher self-esteem predated the transition to sexual activity for males in the sample. Conversely, Mott (1983) reports that higher self-esteem is a significant predictor of less sexual activity at an early age among a nationally representative sample of young women ages 17 through 20. In this sample self-esteem had no significant independent effect on the sexual activity of males.

Liberal attitudes towards premarital sex were associated with sexual experience and with the intent of virgins to have premarital sexual intercourse for both sexes in a special sample of 16- and 17-year-old respondents interviewed in three urban communities in 1975 (Miller et al., n.d.). There were, however, distinct differences between males and females in how actual sexual behavior related to attitudes toward premarital sex and attitudes towards traditional sex roles. For the males, the respondents were likely to have engaged in sexual intercourse unless they were opposed to premarital sex for moral or family reasons, or unless they had not been able to find a willing partner. These data suggest the importance of social skills in dealing with the opposite sex for males intent on losing their virginity.

For females, several patterns emerged. Nonvirgins held more permissive attitudes towards premarital sex but tended to hold conservative attitudes about appropriate gender roles. Virgins who thought that they might engage in premarital sex at some later point held the least traditional views of gender roles, and virgins opposed to premarital sex held the most traditional attitudes towards gender roles (Cvetkovich, Grote, Lieberman, & Miller, 1978).

Motivation behind first intercourse was also found to be different for male and female adolescents for this same sample (Miller, 1978). Males were more likely to report that "my sexual desire" was very important as a reason for first intercourse, whereas sexually experienced females were more likely to report "my partner's sexual desire" and "deep strong feelings/love for partner" as

very important reasons. Differential reactions to first intercourse were also reported. Males, more frequently felt proud and experienced afterward; females more frequently worried about pregnancy. Thirty-four percent of the females reported regret at the time of first intercourse compared to 18% of the males. Twenty-eight percent of females still regretted having had first sexual intercourse at the time they did, compared to 4% of the males. A similar pattern was reported by Sorensen (1973), who found in a national sample of adolescents that boys reacted more positively to the first coital experience than girls. Males reacted more with excitement, females with fear. Forty percent of the females said they wish they had waited compared to 14% of the males.

Although this evidence supports the stereotype of adolescent males socialized to seek intercourse, there is also considerable support for the notion that the stereotype does not apply to all males. Ross (1979) in a survey of New York City teenagers found that both males and females ranked "having sex" far behind such other goals as getting a job, preparing for the future, making it on my own, getting good grades, and getting along with my family. Males and females showed remarkable similarities in the proportion agreeing that the latter goals are very important. Although both sexes ranked the importance of having sex below these other goals, only 27% of the females compared to 55% of the males thought "having sex" was an important goal. Two studies have reported a somewhat surprising finding that males more than females have engaged in sex mostly because "the person I was with expected me to" (Ross, 1979) and because "it seemed like it was expected of me" (Miller, 1979a). These studies point to a divergence between the behavior of a significant minority of males and the cultural "macho" stereotypes.

Sorensen (1973) distinguished between two types of sexually active adolescents—the serial monogamists and the sexual adventurers. He defined serial monogamy (without marriage) as a "close sexual relationship of uncertain duration between two unmarried adolescents from which either party may depart when he or she desires, often to participate in another such relationship." Twenty-five percent of the sexually active males in his national sample of 13–19-year-olds were categorized as serial monogamists compared to 62% of sexually active females. Forty-one percent of the male nonvirgins in his sample and 13% of the female nonvirgins in his sample were classified as sexual adventurers—seeking many mates without maintaining a sexual relationship. The remaining nonvirgins of both sexes were not currently sexually active.

Serial monogamists of both sexes were older and had an average of 4.2 sexual partners. Nearly half, however, had had only one sex partner. Fifty-two percent had had their relationship with one partner for 1 year or more. Sixty-six percent of the monogamists compared to 46% of the adventurers always used a contraceptive or birth control device during the preceding month. A very large majority of serial monogamists (86%) believed they loved their sex partners.

Ninety-three percent of male monogamists believed it was wrong to tell a girl "you love her—even if you don't—if that's what it takes so she will have sex with you."

Sexual adventurers, on the other hand, had had an average of 16.3 partners; they tended to agree with such statements as "there isn't anything in sex I wouldn't want to try at least once" or "there is no kind of sex act that I would think of as being abnormal, so long as the people involved want to do it." Eighty-two percent of the adventurers agree that it is all right to have sex with someone you "really dig, even if you have only known that person a few hours."

In comparison to serial monogamists, adventurers were found to average lower grades, to be less religious, to be less able to be around their parents, to be more likely to smoke marijuana and to drink, to be less accepting of the idea of obeying laws they do not agree with, and to be less conforming to society in matters of clothing and personal grooming. This complex of factors associated with sexual adventurism is very similar to that found by Jessor and Jessor (1975) to be associated with the transition from virginity to nonvirginity.

Moore and Burt (1982) suggest two patterns of sexual intercourse for teenagers. One involves a high probability of intercourse in a long-term and committed relationship among older teens. The other is the reverse, a high probability of intercourse with a relatively large number of partners associated with precocious dating, home conflict, and participation in other deviant activities such as drug experimentation. The evidence suggests more males follow the latter pattern, whereas the reverse is true for females. Moore and Burt argue that these different patterns should not be treated alike by social policy. More effort should be devoted to identifying different patterns of sexual behavior among teenagers, and among male teenagers in particular.

Existing studies suggest differential patterns of sexual behavior among male adolescents, but they are far from conclusive. A recent survey of young men 17–21 years of age showed that on average white males became sexually active before the age of 16 and black males initiated sex soon after they became 14 (Zelnik & Shah, 1983). Moreover, a few local studies of innercity youth show mean ages of first intercourse as young as 11 years of age. To date no national probability survey has examined the sexual behavior of young men during these critical years of transition.

In addition, theoretical explanations of male adolescent behavior in the absence of data have relied heavily on references to stereotypical gender roles. However, the studies reviewed here suggest that stereotypes do not adequately explain the behavior of many male adolescents. Indeed, many similar factors and motivations have been found to influence the behavior of both male and female teenagers. It is clearly time to conduct a study of adolescent sexual behavior that includes adolescents between the ages of 11 and 16, and which draws a suffi-

ciently large sample so that subgroups of the population can be examined. Adequate explanations of male adolescent sexual activity require an adequate data base. To date this information has not been available.

## CONTRACEPTIVE USE

Just as little national data describe the sexual activity of adolescent males, a dearth of information also exists about their use of contraception. The data on women are more complete and provide evidence about male contraceptive usage. Zelnik and Kantner (1980), analyzing two national surveys of young women ages 15-19 for 1976 and 1979, report that among metropolitan women with premarital sexual experience the percentage who said that they always practice contraception increased from 29% in 1976 to 34% in 1979. In addition another 10% in 1976 had used a method at first intercourse but not always after that. By 1979, this proportion had risen to 15%. The information on type of contraceptive method used by young women points to the male role in contraception. In 1979, the most frequently used methods of contraception at first intercourse were the condom (34%), withdrawal (36%), and the pill (19%). Thus at first intercourse 70% of contracepting females were relying on males to do the contracepting.

Differences by race were evident with whites more frequently mentioning withdrawal (42% compared to 12.5% for blacks). Black females, on the other hand were much more likely to rely on the pill, 38% of blacks compared to 15% of whites. The condom was used equally by blacks and whites, 34% for each group. When respondents were asked about the method most recently used, the pill was mentioned by 38% of whites and 31% of blacks; condom usage declined to 23% for whites and 24% for blacks. Withdrawal was even less popular with 21% of whites and 7.5 of blacks using this method. Thus over time there is a transition from the male methods of contraception at first intercourse to female methods such as the pill and in a smaller number of cases the IUD and the diaphragm.

A recent analysis of the National Longitudinal Survey of Work Experience of Youth (the NLS) by Mott (1983) provides information about contraceptive use for a nationally representative sample of males and female ages 17 through 20. Among never-married respondents who were sexually active during the month before the survey, 24% of the males and 15% of the females had not used any contraception. Twenty-four percent of the males reported using a condom, 29% relied on the pill, and 6% used withdrawal. Among the females 56% had used the pill, 8% had used a condom, and 4% had used withdrawal. The somewhat higher reported usage of the pill among females in the NLS sample compared to the Zelnik and Kantner sample of young women is attributed to the older ages of the respondents in the NLS survey.

When contraceptive methods are classified as effective and ineffective, more (60%) of the black and white males used effective methods of contraception than Hispanic males (50%). Similarly about 70% of the black and white females used effective methods compared to 60% of their Hispanic counterparts. Somewhat surprisingly, Mott reports that sexually active young adults over age 20 are only marginally more likely to contracept effectively than their younger counterparts.

Information about contraceptive use among younger male adolescents is provided by Zelnik and Shah (1983), who describe patterns of contraceptive use at first intercourse for men ages 17-21 interviewed as part of the National Survey of Young Men in 1979. These data do not necessarily indicate subsequent contraceptive use. They show that slightly more women (48.9%) than men (44.1%) contracept at first intercourse and the older men and women are at first intercourse, the higher the likelihood of contraceptive use at that time. Among men who had first intercourse before they were 15, 36% of the white males and 28% of the black males had used a contraceptive method. Sixteen percent of the whites and 21% of the blacks had used prescription methods. When first intercourse occurred between 15 and 17 years of age, more had used contraception: 49% of whites and 45% of blacks. Prescription methods were more common among black youth—34% compared to 19% for white youth. First intercourse after age 17 was associated with even higher rates of contraception; 59% of these men had used a contraceptive method and 38% had used a prescription method. (Black and white differentials are not available for this age group.)

At all ages, and especially the youngest ages, black males are less likely to use contraception than white males. They are, however, more likely to use prescription methods when they do contracept. As the age at first intercourse rises, the racial difference in contraceptive use lessens. However, because proportionately more black than white teenagers engage in intercourse before they are 15, the time when the use of contraception is the lowest, their risk of pregnancy is substantially higher.

## The Role of the Male Partner in Contraception

Among females the relatively high reliance on male contraceptive methods, especially condoms and withdrawal, underlines the importance of the male partner's role in preventing adolescent pregnancy. Undoubtedly males also play a role in suggesting that female partners seek contraception, but the frequency of this behavior has not yet been documented. Many service providers informally report that the male partner is important in determining which contraceptive method is chosen and how reliably it is used.

Support for the importance of partners' attitudes is provided by data on reasons teenagers give for not using contraceptives. Although Zelnik and Kantner (1979) report that very few young women, 1.4% of whites and 4.2% of

blacks, did not use a method because their partner objected, other studies report higher proportions of respondents citing partner objections. Miller (1979c) reports that 21% of noncontracepting females in his three-city sample said they did not use contraception because "my boyfriend didn't want me to use it." Interestingly, over half his male noncontracepting respondents (54%) also cited partner resistance. Ross (1979) found in New York City that among noncontracepting females, 11% of blacks, 16% of Hispanics and 14% of whites didn't use contraception because "my partner didn't like it." As in Miller's three-city sample, male respondents were more likely to select this as a reason for nonuse than female respondents, 23% of black males, 12% of Hispanic males, and 16% of white males.

One study examined the influence of partner relationships and communication on contraceptive use and method of choice among teenage girls (Cvetkovich & Grote, 1981). Because previous research had determined that high school and college women involved in stable relationships were more effective contraceptors (Cvetkovich & Grote, 1979; Foreit & Foreit, 1978; Fugita, Wagner, & Pion, 1971), the researchers hypothesized that the stability of the relationship operates in two ways to promote contraceptive use: (1) through more predictably occurring and more frequent sex, and (2) through the young woman's acceptance of her sexuality. In comparing contraceptors to noncontraceptors, they found that female pill users were distinguished by (1) longer relationships with partners, (2) more negative attitude towards getting pregnant, (3) older at time of sexual debut, (4) more frequent intercourse, (5) more trust in partner, and (6) perception of high pregnancy risk from unprotected intercourse. Female condom users compared to no-method users were more likely to have discussed their sexual debuts with their partners, had slightly lower perceptions of the risk of pregnancy, were older at sexual debut, and were slightly more likely to trust their partner to take care of birth control. In discussing their results the authors suggest that male partners in stable relationships are more likely to care about their partner's well-being and to actively encourage contraceptive use. This thesis is consistent with Sorensen's (1973) finding that serial monogamists were more likely to use contraception than sexual adventurers.

#### FACTORS ASSOCIATED WITH CONTRACEPTIVE USE AMONG MALES

As Moore and Burt (1982) note in their review of the available studies, our current understanding of the reasons for contraceptive use, nonuse, and ineffective use by teenagers is limited. For example, Mott (1983) applied multiple regression techniques to the NLS data to identify independent predictors of contraceptive use for males and females 17-20 years old. The model included a range of demographic, socioeconomic, and psychological measures. No independent predictors of con-

traceptive use among males were found. When effective contraception replaced the more generalized "contraceptive use" variable as the dependent variable in the model, a number of meaningful predictors emerged. These were lower religiosity, higher educational goals, and higher self-esteem. These predictors were only associated with the effective use of contraception among men 17-20 years old; they did not hold for men in their 20s nor for young women.

A number of studies have asked noncontracepting teenagers why they do not use contraceptives and consistently the same types of responses are given. The major types of reasons reported for nonuse of contraceptives are inaccurate information about the risks of pregnancy, a belief that contraception interferes with pleasure, spontaneity, or convenience, and a perception that contraception is difficult to obtain (Shah, Zelnik, & Kantner, 1975). Whereas the latter set of reasons emerged from the responses of the nationally representative sample of young women, many of the smaller localized studies of both male and female teenagers find similar sets of reasons.

Miller's (1979) multiple regression analyses, for example, revealed that the following reasons cited by male teenagers best explained their nonuse of contraception: My girlfriend assured me that she was sterile or could not get pregnant; I decided to take a chance and count on good luck; I just put the possibility of pregnancy out of my mind; I had planned not to have any more intercourse for a while; I assumed my girlfriend would take some precautions; I didn't believe that my girlfriend would actually get pregnant; and I wanted to get my girlfriend pregnant. Similarly Finkel and Finkel (1975) found that 62% of the males in their sample agreed that birth control makes sex seem preplanned and 54% agreed that only girls should use birth control. Ross (1979) found that the six most popular reasons that males did not use birth control were: It interferes with pleasure, my partner doesn't like it, it is unnatural, it makes sex seem too planned, it is too embarrassing to buy, and it is a hassle to get.

Teenagers' knowledge and beliefs about the probability of pregnancy are clearly related to their reasons for not using contraceptives. Both males and females cite the belief that the female could not get pregnant as a reason for not using contraception. Miller (1976) has found wide variations in the estimates of young women give about the probability of pregnancy. Teenage males have been found to be less knowledgeable about pregnancy risk than teenage girls in a number of localized studies (Freeman, Rickels, Huggins, Mudd, Garcia, & Dickens, 1980; Jenkins, 1983; Ross, 1979). Cvetkovich, Grote, Bjorseth, & Sarkissian (1975) point out that teens' lack of understanding about probabilities of pregnancy are affected by factors other than substantive knowledge about the physiological facts of conception. They describe the importance of personal fables for young adolescents. A teenager engaging in intercourse may develop a belief that he/she is sterile if pregnancy does not occur on the first few occasions of unprotected coitus. Thus teens who don't think they can get pregnant or

impregnate may hold these beliefs as a result of ignorance about conception or as a result of their own first sexual experiences when pregnancy did not immediately result.

Lack of information among teens also extends to inadequate knowledge about contraception. Zelnik and Shah (1983) report that 13% of women 15-19 years old and 20% of men 17-21 years old did not use a birth control method at first intercourse because they did not know about contraception. More black than white teenagers of both sexes cited lack of contraceptive information as a reason for not using a method.

Many males and females also believe that contraception makes sexual intercourse seem too planned and not spontaneous. The most common reason cited by teenagers for not using contraception at first intercourse was that the intercourse had not been planned. Only small proportions of men (25%) and women (17%) reported that they had planned their first intercourse, and these planners were more likely to have used contraception (Zelnik & Shah, 1983). Needle (1977) hypothesizes that the episodic nature of sexual encounters when sexual activity is first initiated is a fairly adequate explanation for the failure of many teenagers to use any contraception or to use reliable methods. He suggests that the belief in the value of spontaneity helps the newly sexually active population avoid direct confrontation with conventional morality. In addition, sex viewed as unplanned and spontaneous can be better reconciled with a perception of self as not really sexually active. Teenagers at the beginning of their sexual careers often deny to themselves that they are sexually active (Cvetkovich & Grote, 1981; Cvetkovich, Grote, Bjorseth, & Sarkissian, 1975; Sorensen, 1973).

A third set of factors affecting contraceptive utilization centers on the accessibility of contraception (Needle, 1977). Whereas male methods of contraception pose fewer accessibility problems than female methods, one of the major reasons male respondents in the Ross survey (1979) said they didn't use birth control was because it is too embarrassing to buy and it is a hassle to get. Smiklo (1982) reports a similar rationale for nonuse of contraceptives in a sample of middle-class male high school students. Forty-four percent of nonusers said they did not use condoms because of embarrassment or the hassle. Many teenage males apparently perceive the use of contraception as problematic.

Another factor that appears to explain the lower incidence of contraceptive use among teenage males compared to females is the belief that contraception is a female responsibility. Two studies report more than half their male teenage respondents thought that the female partner should or would take responsibility for contraception (Finkel & Finkel, 1975; Smiklo, 1982). Conversely, a recent survey in selected Baltimore schools reports that high proportions of males and females thought that *both* partners were responsible "to see that a girl doesn't get pregnant when having sex" (Clark et al., 1984). A small proportion of teenagers do not use contraception because they desire pregnancy. In 1979, Zelnik and

Shah (1981) found that 4% of females aged 15-19 and 2% of males 17-21 were trying to become pregnant or did not care whether they became pregnant.

In addition to examining the reasons for nonuse of contraception, several studies have looked at the factors related to successful contraceptive utilization. High school males have been found to use contraception when they have accurate knowledge of the risks of unprotected coitus, when they perceive birth control as available and convenient, and when they disagree with the idea that "it is sometimes okay to have unprotected intercourse" (Cvetkovich et al., 1978). Both males and females report that the main reasons that they sought prescription contraception were "began to have sex more frequently," "began a steady relationship," "pregnancy scare," "discovered easy availability of clinic or physician's office," or "influence from sexual partner"—this latter reason was cited more frequently by males (Miller, 1979b). These findings suggest that many factors predicting contraceptive use by males are similar to those isolated for females. They include the perception of the risk of pregnancy, the stability of the relationship with partner, the frequency of coitus, the communication with the partner, and perception of the availability of the method.

The studies of male contraceptive use reviewed here document the significant role of males in preventing pregnancies. The studies show that male adolescents are only slightly less likely than females to report using contraception, whether the occasion is first intercourse, last intercourse, or during the last month. For both males and females, age at first intercourse is related to the likelihood of using contraception. The older adolescents are at first intercourse, the more likely is the use of contraception. At first intercourse, 70% of contracepting adolescent females reported relying on male methods of contraception, but over time many females make a transition to prescription methods. In addition the factors associated with use and nonuse of contraceptives are remarkably similar for both male and female adolescents. Given these findings, it is clear that the adolescent male's role in contraception has clearly been undersold by policy makers and service providers.

#### IMPLICATIONS OF THE FINDINGS FOR FUTURE RESEARCH

Although all the evidence is not in, this review of research about adolescent male fertility behavior did uncover more information than expected. Several authors, citing the absence of data, have called for more research about the "forgotten half" of the fertility equation. However, a few nationally representative data bases have collected information about male adolescents (see another chapter in this book for a description of these data), and several smaller scale surveys have also been conducted. Many of the findings about males have been reported in the

literature. The problem appears to be one of emphasis. Although information about female fertility behavior is often presented by itself, information about male fertility behavior is most often reported in conjunction with information about female fertility behavior. Few reports concentrate any sustained focus on adolescent males.

There are, however, clear gaps in the research. One is the absence of data about trends in male sexual activity and contraceptive utilization. Since 1971, reliable data have been collected about young women's sexual activity and contraceptive practices. They have shown remarkable changes in these behaviors over the past decade. Comparable information about males is simply not available, and because it cannot be reconstructed, we can only recommend that such omissions should not occur in the future.

Another glaring gap in available information is the absence of good data about pregnancies and births attributable to adolescent males. Surveys of male adolescents could attempt to collect this information. However, males have been shown to be less than reliable informants about these occurrences (Mott, 1983). Perhaps more effort should be made to collect information about male partners from the adolescent women. The birth registration data system could not be the mechanism for this data collection because state laws determine who can be listed as a father on a birth certificate for an out-of-wedlock birth. However, other fertility surveys of adolescent women might ask more questions about male partners. These additions would undoubtedly heighten the sensitivity of an already sensitive interview situation. It is clear, however, that more information is necessary about who the male partners are and how they influence fertility decision making.

An ideal data set would include interviews with both partners. Because sexual activity and contraceptive behavior emerge out of the interaction patterns between males and females, it is perhaps surprising that so much of the research in this area has only focused on one partner. The high costs and complicated logistics of developing such a paired data set have so far discouraged attempts to create it.

There is a definite need to develop a theoretical framework that explains the fertility behavior of adolescent males. The work to date in this area has focused on explaining female behavior and the few studies that have tested models using male subjects have used college students (Delameter, 1983; Reiss, Banwart, & Foreman, 1975; Thompson & Spanier, 1978). A compendium of variables have already been found to be associated with males' early sexual activity and use of contraception. These have been cited earlier in this chapter. Still more variables are suspected of influencing fertility behavior. Effort now needs to be devoted to conceptualizing how these variables operate in concert to produce differing patterns of fertility behavior. Existing data bases could be used to test these models initially. However, new data collection efforts will be necessary so that a full range of the important variables could be available within a single data set.

## IMPLICATIONS OF THE FINDINGS FOR PROGRAM INTERVENTION

The data indicate that large numbers of teenagers are sexually active. In 1979 over half of 17-year-old men had experienced intercourse and the mean age of first intercourse was 15.9 years (for men 17-21 years old). More black than white males had experienced intercourse by age 17, and their mean age of initiation was 1 year younger. Because age at first intercourse is negatively related to the use of contraception, the risk of pregnancy is very high among these early initiates. Preventing pregnancies among this group poses a severe challenge. Two potential approaches would be delaying the onset of sexual activity among these teenagers and failing this, ensuring the effective use of contraception when intercourse occurs. These are not necessarily mutually exclusive approaches, although bitter controversy has characterized the debate between supporters of each approach in recent years. In a compromise solution Congress has authorized two federally funded programs representing each of these approaches. The Adolescent Family Life Demonstration Program, established in 1981, funds projects attempting to discourage premarital sexual activity, and the much larger Family Planning Program established in 1970 supports family planning services for teenagers, as well as for older women. Although family-planning services have been proven effective in reducing adolescent pregnancies and births (Forrest et al., 1981), the effectiveness of primary prevention programs such as those funded under the more recent Adolescent Family Life program have not yet been demonstrated.

The patients served by family planning clinics are overwhelmingly female. In the middle and late 1970s the federal government responded to the criticisms that men had been excluded from programs by funding a number of demonstration projects to involve males in family-planning services. Typically, these projects set up male clinics with male staff that operated side by side with female clinics within family-planning agencies. These projects were generally judged to be failures because they were unable to attract men into the clinics. At the federal level the male initiative suffered a quiet death when federal funds for family-planning services were cut.

A recent account of the history of the men's clinic in San Francisco chronicles the evolution of one of these demonstration projects (Gordon & DeMarco, 1984). Although this project was unusually successful in attracting clients, few participants asked for reproductive counseling. The most popular services were job physicals, free condoms, and medical care for the health problems associated with homosexuality. The authors describe how the staff began to realize that the medical model of delivering services was not very successful in involving males, particularly adolescents, in family planning. Pointing out that most male methods of contraception do not require medical services, they concluded that it is difficult to determine a precise role for the organized family-planning movement

in the delivery of male birth control methods. Instead they recommend public health campaigns and improved distribution of condoms as approaches to promoting male involvement in family planning.

Male and female youth have been found to participate equally in the educationally oriented prevention programs. In 1983, Adolescent Family Life Demonstration Projects reported equal numbers of both sexes participating. The bulk of family life/sex education, however, is not provided through this small federal demonstration program. A 1982 survey of school districts serving large cities showed that sex education in some form was available in 80% of the districts and 85% of the 9.3 million students enrolled in these districts participated (Sonenstein & Pittman, 1984). Beyond school-based programs there are countless others sponsored by private youth-serving agencies, churches, and other organizations. Although the sex distribution of participants in these latter programs is unknown, the school district survey found that male and female students participated in the programs in equal numbers although classes were not necessarily coeducational. At the elementary and junior high levels 90% of the districts reported equal enrollment by sex; at the senior high level this figure fell to 82%. All districts with unequal enrollments reported more girls than boys. Whereas classes were primarily coeducational at the senior high level (83%), the proportion declined to 70% of junior high classes and 47% of elementary classes. Single sex classes were not associated with differences in topic coverage for boys and girls (Sonenstein & Pittman, 1984).

Although school districts in large cities appear to be providing much more sex education than previously thought, an examination of topic coverage by grade level shows that only 21.5% of all districts provided at least one class period on intercourse and pregnancy probability to at least three-quarters of their students and introduced this topic before the ninth grade, when students are normally 14-15 years old. Even fewer districts provided the same type of coverage for such topics as "the most likely time in cycle for pregnancy" (14%), "contraceptives" (11%), and "sources of family planning services" (7%). Some districts introduced these topics at higher grade levels, but the proportion of schools providing one class period on these topics to most of their students never rose above 25%. Because lack of information about pregnancy risks, contraception, and sources of family-planning methods have been shown to be primary reasons why teenagers do not use contraception, it would appear that school sex education programs could do a lot more to provide this information to students before they become sexually active. The mean age for sexual initiation among white males was 15.9 years in 1979; it was 14.4 for black males (Zelnik & Shah, 1983).

The data show that a substantial number of teenage males are not "sexual adventurers" (Sorenson, 1973). Almost half report that their first intercourse occurred with someone with whom they were either engaged or going steady. These men do not fit the stereotypical view of young men as promiscuous

opportunists. Prevention programs need to think about the target groups for their services. Although some men may just need more information and skills to obtain contraception, or to support their partner's contraceptive efforts, others may need a lot more convincing about the necessity of contraceptive responsibility.

Because many males do not face the same consequences as females when an unintended pregnancy occurs, they may not be motivated to take contraceptive action. Some authors have argued that the negative consequences should be equally borne by both sexes, especially now that paternity can easily be determined by laboratory tests. If paternity adjudication and child support enforcement were vigorously pursued, pregnancies would be much more costly to males. Rivera-Casale, Klerman, and Mancla (1984) argue that adolescent fathers and their parents should bear more financial responsibility for the progeny of unprotected intercourse. This approach would certainly raise the ante for males who are heedless of the need to be reproductively responsible.

Many teenage males do use contraception or report that their partners use contraception. Sixty percent of black and white males (17-20-year-old) used an effective contraceptive method at last intercourse; 50% of Hispanic males used an effective method. These proportions are only 10 points lower than the percentages for females of the same age (Mott, 1983). Almost half of males initiating sex between the ages of 15 and 17 years used contraception at first intercourse (Zelnik & Shah, 1983). Clearly, getting males to use contraception, even at first intercourse, is not a lost cause. Males can be reached. Although the male family-planning clinics were a disappointment, there is no reason to write off efforts to encourage the use of contraception by males. New approaches need to be developed and tried. For example, school-based adolescent pregnancy clinics serving both males and females show very promising results (Kirby, 1984; Zabin et al., 1983). Other approaches might be devised that focus on some of the other factors that have been found to be associated with the later initiation of sexual activity and the use of contraception once sexual activity commences. For example, programs designed to enhance self-esteem, to raise educational expectations and opportunities, and to improve communication skills should be tested.

At least half the babies born to teenage mothers are fathered by men over 20 years old; on average the first sexual partner of a teenage woman is 3 years older than she is. To prevent unwanted adolescent pregnancies, prevention programs will need to target services to men in their 20s. Whereas thorough preparation of young men when they are in junior and senior high school might preclude the eventual need for programs targeted to older men, there is an immediate need to increase the effective use of contraceptives among sexually active unmarried men in their 20s. Creative approaches to reaching this older population need to be developed. Colleges, universities, job-training programs, and the armed forces are likely places to start. If some of the current restrictions in the broadcast industry could be lifted, the mass media could effectively be used to communi-

cate messages about reproductive responsibility to broad segments of the population.

The finding that the sexual double standard is not as prevalent as cultural stereotypes would predict is a reason for cautious optimism. The incidence of unintended adolescent pregnancies could very well be reduced if school-based programs provided more complete information to adolescents before they become sexually active and if contraceptive services were targeted to males in their teens and 20s. On the face of it, males do not appear to be less willing to use contraception than females. However, to date, most contraceptive programs have only targeted females. Each pregnancy is the result of the behavior of two individuals and only one partner need contracept effectively to prevent the pregnancy. Services, therefore, have at least two chances to prevent each pregnancy. It is clearly time to think again about how to get more male adolescents to use effective contraceptive methods. Although the male family-planning clinic model did not work, there is no reason to believe that other approaches will suffer the same fate.

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# 4

## Stresses and Coping Strategies of Adolescent Fathers

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Clinical and research interest in teenage fathers comes from concern for the impact that this group of young men have on child development, their effect on maternal emotional and financial stability, and the problems that they themselves face as a result of pregnancy and parenthood. In this chapter we investigate this latter concern. Discussion focuses on the various kinds of stresses experienced by young fathers, the manner in which fathers cope with their problems, and the factors that may affect individual differences in stresses and coping behavior.

### TRANSITION TO PARENTHOOD

Caplan (1961) perceives a crisis as occurring when someone faces an obstacle to important life goals that is insurmountable to the utilization of customary methods of problem solving. Implicit in this concept is that at least for some interval of time a stressful event overcomes a person's capability to cope. Data from studies on adult fathers demonstrates that men perceive pregnancy and parenthood as stressful situations (Gerzi & Berman, 1981; Miller & Sollic, 1980). Research investigating the behavioral changes associated with the transition to parenthood also imply high level of anxiety experienced by fathers. The development of psychiatric problems (Osofsky, 1982), mild marital instability (Belsky, Spanier, & Rovine, 1983), and even physical symptoms (Brethowan & Conlon, 1965) have all been described in expectant and new fathers suggesting that at least for some fathers pregnancy results in an emotional crisis.

Initially, the transition to fatherhood was viewed in terms of a psychological crisis. Thus the problems and negative feelings experienced by fathers were

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# Adolescent Fathers in the United States: Their Initial Living Arrangements, Marital Experience and Educational Outcomes

By William Marsiglio

## Summary

Data from a nationally representative longitudinal survey show that seven percent of young males aged 20–27 in 1984 had fathered a child while they were teenagers, more than three-quarters of them nonmaritally. One-third of those who were responsible for a nonmarital conception married within 12 months of conception, and half of all of the young men lived with their child shortly after the child's birth. Overall, young black men were more likely to have been responsible for a nonmarital first birth than were males of other racial backgrounds, and only 15 percent of black teenagers lived with their first child, compared with 48 percent of Hispanics, 58 percent of disadvantaged whites and 77 percent of nondisadvantaged whites. Multivariate analyses indicated that only black or Hispanic youths and those who fathered a child at age 16 or younger were significantly less likely to have lived with their first child; those who were raised Catholic were more likely to have done so. Further analyses revealed that living in a rural area, being relatively older at the child's birth, having been raised Catholic and having lived with both parents at age 14 were associated with an above average probability that white teenage fathers would live with their child, at least initially. However, none of the variables in

**"Fifty percent of this sample of young men lived with their child shortly after the child's birth, and 22 percent of those who lived with their child were also living with one of both of their parents or in-laws. . . ."**

the model were significant for blacks.

Teenage fathers, regardless of their marital status at conception or age at first birth, were much more likely to have been high school dropouts than were other male teenagers. Those with a maritally conceived child had a particularly high drop-out rate—almost 62 percent. Among teenage fathers responsible for a nonmaritally conceived first birth that occurred before they received their diploma or GED certificate or they left school for the last time, those living with their partner shortly after the child's birth were less likely to have completed high school by 1984 than were those not living with their child. However, a multivariate analysis revealed that a teenage father's living with his child shortly after birth was not significantly related to his completion of high school, while being black was positively associated. The racial difference may mean that norms or social and familial supports are more influential for young black males in minimizing the possible deleterious effects of teenage fatherhood on schooling, while so few black males lived with their child that any assessment of this question is extremely difficult. Finally, among a subsample of young males who were 14 or 15 years of age at the time of the 1979 survey and had not yet fathered a child, those who were eventually responsible for a nonmaritally conceived first birth had not completed a lower mean grade level in 1979 than had those who did not become fathers. On the other hand, those who became teenage fathers had anticipated completing significantly fewer years of schooling, and were found to have done so by the 1984 survey.

## Introduction

Concern over adolescent pregnancy and childbearing has generated a great deal of research over the past decade,<sup>1</sup> much of it concentrated on how adolescent pregnancy and parenthood affect young women and, to a lesser extent, their children. Because of the difficulty of sampling teenage fathers, most of the scant research that has focused on teenage fatherhood has generally been exploratory in nature and based on small, nonrepresentative samples.<sup>2</sup> Consequently, we do not have a clear description of the young men who are responsible for nonmaritally or maritally conceived first births, and we know virtually nothing about their decision to live with their child initially or their patterns of high school completion.

It is generally assumed that the consequences of teenage fertility are more direct and pronounced for young women than they are for young men.<sup>3</sup> Particularly since child-support obligations for young fathers are seldom enforced, the consequences of teenage fatherhood often are contingent upon the young man's willingness or opportunity to assume a degree of responsibility in raising his child.<sup>4</sup> In contemporary American society, particularly among whites, the young man's assumption of paternal responsibility generally entails making a commitment to the mother, either by marrying her or by living with her.

Young males who have fathered a child or who expect to do so must contemplate decisions concerning marriage and living arrangements that may have a wide range of consequences for father, mother and child alike.<sup>5</sup> Although these decisions are

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often quite complicated and may involve parties other than the young man and his partner (e.g., his or the young mother's parents), this article emphasizes the male's perspective. Researchers have seldom examined the young man's role in the decision-making process or how young men are affected by their assumption of the social role of father.

The decision to live with the mother and child, which is a key measure used in this article, does not take into account the possibility that a young father may play an active role in caring for his child even if he does not live with the mother.\* Some young fathers are denied an opportunity to live with their child from the outset, especially if the child's mother retains custody and chooses (or is forced) to live apart from the child's father. However, examining living arrangements serves a useful purpose: It identifies a group of young fathers who were able and seemingly willing to make an initial commitment to their child and partner and permits an examination of the association between early fatherhood and patterns of high school completion. In addition, looking simply at whether a young father chooses to live with his child's mother helps to circumvent the middle-class (and perhaps race-related) bias that marriage is the only way in which a young male can commit himself to his child or his partner. Assuming the responsibilities of fatherhood by living with a child without marrying the child's mother is likely to have consequences similar to those related to marriage.

There are large subcultural variations in the tendency to legitimate unplanned births through marriage. Teenage males socialized within the black subculture, for example, are more likely than youth from other racial or ethnic groups to have children out of wedlock and to live apart from them. Even though out-of-wedlock births are declining slightly among blacks and are on the rise among whites, black women 15-19 years of age still have about four times as many out-of-wedlock births as do comparable whites.<sup>4</sup>

Racial differences in the tendency to have out-of-wedlock births may reflect young mothers' willingness or ability to marry or live with their partners. When male high school students were asked what they would do if they impregnated a girlfriend whom they had been dating for a year, blacks and whites were about equally likely to say that they would be willing to live with their partner and child.<sup>7</sup> Although black teenagers of either sex tend to have more favorable attitudes toward childbear-

ing than their white counterparts<sup>8</sup> and many young black males may be interested in living with their child and the child's mother, a young man's disadvantaged status may discourage his partner (and her parent or parents) from pursuing such an arrangement. A young male may himself believe that his partner and child would be better served by not living with him, given his poor economic circumstances. Nevertheless, contrary to popular myth, a number of studies have shown that many low-income young black males continue to show an interest in their child and the child's mother, even if they are not married to or living with her.<sup>9</sup>

Living with his partner or marrying her in response to a teenage pregnancy may affect a young male's schooling and employment prospects; on the other hand, his current educational and employment circumstances and motivations may influence the likelihood that a young couple will either live together or marry, as well as whether they will complete their education. One theoretically relevant causal issue, then, particularly since males do not experience the physical side effects of pregnancy and childbirth, is whether or not a teenager's assumption of the social role of father curtails his educational attainment.

The authors of a previous study have observed that "rather than causing a reduction in educational aspirations, early parenthood may simply reflect the realization of other plans that were not linked with further education. Early parents, who are not part of the 'college-going crowd' in high school and who do not share the aims and criteria for success of many of their classmates, appear to seek other goals in life—goals that are more compatible with early marriage and parenthood. The stereotypical view of teenage parenthood as invariably interfering with educational plans clearly must be qualified."<sup>10</sup>

The preceding quotation highlights one important difficulty with doing research in this area: It may be inappropriate for researchers to define beforehand a given level of education as being desirable. Moreover, for causality to be demonstrated, it is necessary to measure educational and work expectations prior to a pregnancy and follow respondents over time to observe whether educational attainment is hindered. Likewise, it is useful to identify whether the pregnancy or birth occurred while the young father was actively enrolled in high school, or at least before he had received formal certification for completing his secondary schooling.

One of the few studies of teenage fathers

that used national data attempted to determine how the fertility of young men affected their educational attainment.<sup>11</sup> Although it was insightful in certain ways, the study was restricted to a sample of high school seniors (thereby excluding dropouts), focused on parenthood among older teenagers, did not distinguish between biological paternity and social fatherhood and dealt primarily with young women. The authors' major conclusion was that teenage fathers in this sample tended to have lower educational aspirations and attainment and were less satisfied with their career progress than were their childless peers, but that the effects of early parenthood net of marriage were quite small.

Another study, which used nationally representative data to analyze the consequences of the timing of marriage on educational outcomes for teenage parents (also focusing primarily on young women) found that adolescent males who married after their child had been conceived but before the child was born were less likely to have enrolled in school after their child's birth than were those who married after childbirth or who fathered a child after they were married.<sup>12</sup> When they restricted one of their analyses to a sample of white males the investigators also found no evidence to support the notion that young men with high educational expectations before conception were more inclined to delay marriage than were males with lower educational expectations.

### Research Design

In this article, data from the National Longitudinal Survey of Labor Market Experience of Youth (NLSY) are used to paint a social and demographic portrait of the living arrangements and educational attainment of adolescent fathers. The NLSY is a nationally representative panel survey that included 12,686 male and female respondents (with an oversampling of black Hispanics and economically disadvantaged whites). These subgroups can be weighted to represent a national cross-section of American youth aged 14-21 as of January 1, 1979. All percentages reported in this article are weighted statistics, but reported sample sizes reflect actual frequency counts.

NLSY participants have been interviewed  
(Continued on page 7)

\*Living arrangements are examined without regard to marriage because they represent salient phenomena in family formation and structure. It is not assumed that any particular form of living arrangement is inherently good or bad for the adolescent father or his partner or child.

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viewed during the first five months of each year from 1979 through 1987. Every attempt has been made to interview each respondent at the same time each year. Over 95 percent of the original sample of young men were interviewed in 1984 (a total of 6,054). A more detailed description of the sample, panel design and interview schedule can be found elsewhere.<sup>13</sup> An important feature of the NLSY since its inception in 1979 has been the annual household record file, which includes information on the respondent's relationship to other members of the household.

A retrospective fertility history for male respondents was collected in 1982 and has been updated in each of the subsequent survey rounds. The usefulness of these data is somewhat limited, however, because of the ad hoc manner in which the data were added to the survey and because only a small amount of pertinent information was gathered. In addition, the age distribution of the NLSY sample (14-22 years of age in 1979, 17-25 in 1982) increases the difficulties associated with using these fertility data as a basis for research on male adolescent fatherhood. Nevertheless, the NLSY is perhaps the best available nationally representative data source on adolescent male fertility and living arrangements.

Young men were classified as teenage fathers if they reported by the time of the 1984 survey that they were 19 years of age or younger when their first child was born. Births in which the conception occurred 1-2 months prior to marriage or any time after marriage were considered maritally conceived; all others were categorized as nonmaritally conceived.\*

Household record information was used

to create a dichotomous living-arrangement variable that differentiated between teenage fathers who lived with their child at the first observation point after birth and those who did not. In cases where a respondent was not interviewed immediately following his first child's birth, data from the next survey in which the respondent was interviewed were used. This appears to be a reasonable approach, in that 93 percent of all teenage fathers in the sample were interviewed in all six years and 98 percent were interviewed in at least five.

If a teenage birth is actually a disruptive event in a young man's life, then he may drop out of school temporarily but return later for a high school diploma, or study to earn high school certification through the General Educational Development program (GED).<sup>†</sup> In order to make maximum use of the GED data and allow adequate time for the respondents to have completed their high school education, analyses here have been restricted to young males who were at least 20 years old as of the 1984 survey.

To determine the relative timing of fertility events and high school attendance and completion, dates (by year and month) for a young male's last school attendance and his receipt of high school credentials (where applicable) were compared with similar dates for the birth of the teenage father's first child. Separate variables were created for diploma and GED recipients and for those who had not yet received certification for high school by the time of the 1984 survey, to distinguish the teenage father whose child was born prior to or in the same year and month as when he left school or received his academic credentials from the father whose child was born after this date.

In addition, a date for knowledge of conception was estimated by subtracting seven months from the birth date and then comparing that to the schooling date. (Precise definitions of the background factors used in this study can be found in the Appendix.)

#### Quality of Data

The longitudinal nature of the survey sample provides an opportunity to assess the accuracy of young males' fertility reporting over time. One evaluation of the quality of the NLSY fertility data, which examined discrepancies (such as reporting inconsistencies) in the fertility reports of survey participants, found, not surprisingly, that women reported their birth histories much more accurately than did men.<sup>14</sup> Overall, 47 percent of the male respondents who ever reported a live birth as of the time of the 1981 survey had at least one discrepancy in their reports, compared with 14 percent of mothers. Misreporting was most pronounced for fathers not living with their child. After resolution of as many inconsistencies as possible, the discrepancy rate among the men (28 percent) remained much higher than that among the women (three percent). The researcher speculated that the higher discrepancy rate among fathers may have been due in part to the fact that a higher proportion of fathers than of mothers were not living with their children, and would therefore be less likely to know specific birth dates.

These findings suggest that the subsample of teenage fathers may be biased to some extent. Males who were less active in assuming the responsibilities of fatherhood may have been less likely to acknowledge their fertility and more likely, therefore, to have been misclassified. Misreport-

\*It has been assumed that the vast majority of young fathers who married during the first or second month following their child's conception did not know that their partner was pregnant when they decided to marry and therefore did not marry to legitimate an unplanned pregnancy. Additionally, a young man was considered to have married within one year of conception if he married at any time during the 12 months after the point at which he can be presumed to have known that conception had occurred (i.e., three months after the actual estimated date of conception).

†The living-arrangement variable is potentially misleading, however, in that 1979 data had to be used for all respondents who fathered a child prior to the 1979 survey. Since retrospective data on living arrangements were not collected prior to 1979, the living-arrangement variable therefore represents in many cases the living situation of teenage fathers at least several years after the child's birth. About 65 percent of the 555 teenage fathers who were 20-27 years old at the time of the 1984 survey were responsible for nonmaritally conceived first births occurring between 1978 and 1984. The cases of respondents whose child was born during 1978 were

not considered to be problematic because most initially had been surveyed in the first five months of 1979. However, in order to standardize the living-arrangement variable and ensure its validity, the 148 cases in which the teenage father's child was born between 1969 and 1977 have been excluded from analyses that used this variable.

†The GED program tests an individual's competence in mathematics, social studies, science and reading and writing skills at the high school level and issues high school equivalency diplomas or certificates to those who receive satisfactory test scores. Most employers, training programs and universities accept GED certificates in the same manner as they do regular diplomas (See: R. M. Cervero, *A National Survey of GED Test Candidates: Preparation, Performance, and 18 Month Outcomes*, Educational Resources Information Center, National Institute of Education, U. S. Department of Education, Washington, D.C., 1983; C. C. Swann, "Three Studies of General Educational Development (GED) Students—1979-1981," Educational Resources Information Center, Washington, D.C., 1981; and R. O. Utin, "Equivalent to What? GED High School Equivalency

Test," *English Journal*, 71:21, 1982.) However, a recent national study of 17-24-year-olds found that the wages associated with GED participation were considerably smaller than those for a regular diploma. (See W. R. Morgan, "The High School Dropout in an Overeducated Society," in P. Baker et al., eds., *Pathways to the Future IV: A Final Report on the National Longitudinal Surveys of Youth Labor Market Experience in 1982*, Center for Human Resource Research, Columbus, Ohio, 1984, p. 215). GED participants are likely to be older than the typical group of students who receive their diplomas in the spring of their senior year. Data gathered by the GED Testing Service show that the mean age of individuals taking the test in 1980 was 25.7, with 33 percent of them under age 20. (See: A. C. Mallizio and D. R. Whitney, *Who Takes the GED Tests?* American Council on Education, Washington, D.C., 1981.) The mean age for GED participants in the present sample of males aged 20-27 was 19.5. Separate data are not available by sex or for those who passed the test. GED certificates constituted 14.3 percent of all high school credentials issued in 1981, and one study projected that based on current demographic trends this percentage should increase to at least 20 percent by 1990. (See: Cervero, 1983, above.)

Table 1. Percentage distribution of 20-27-year-old male participants in the National Longitudinal Survey of Labor Market Experience of Youth (NLSE), by background characteristics, according to whether they had fathered a child as teenagers and whether such conceptions had taken place within or outside of marriage

| Characteristic                                       | Total sample |       | Did not father child as teenager |       | Fathered child as teenager |       |            |       |         |       |
|--|--------------|-------|----------------------------------|-------|----------------------------|-------|------------|-------|---------|-------|
|  | N            | %     | N                                | %     | All                        |       | Nonmarital |       | Marital |       |
|  |              |       |                                  |       | N                          | %     | N          | %     | N       | %     |
| Total  | 5,550        | 100.0 | 4,395                            | 100.0 | 555                        | 100.0 | 446        | 100.0 | 109     | 100.0 |
| <b>Age at 1984 survey</b>                            |              |       |                                  |       |                            |       |            |       |         |       |
| 20   | 759          | 14.2  | 680                              | 14.2  | 79                         | 13.9  | 55         | 12.4  | 24      | 19.8  |
| 21   | 761          | 13.2  | 676                              | 13.1  | 85                         | 13.7  | 70         | 13.0  | 15      | 16.4  |
| 22   | 723          | 13.6  | 645                              | 13.7  | 77                         | 13.2  | 68         | 15.0  | 9       | 6.0   |
| 23   | 791          | 14.0  | 715                              | 14.1  | 76                         | 12.7  | 62         | 11.8  | 14      | 16.2  |
| 24   | 784          | 13.9  | 697                              | 13.8  | 87                         | 17.8  | 73         | 20.3  | 14      | 8.0   |
| 25   | 794          | 14.2  | 724                              | 14.2  | 70                         | 14.8  | 58         | 13.4  | 14      | 19.3  |
| 26   | 767          | 13.6  | 696                              | 13.8  | 71                         | 12.9  | 62         | 12.8  | 19      | 14.2  |
| 27   | 171          | 3.4   | 161                              | 3.5   | 10                         | 1.1   | 10         | 1.4   | 0       | 0.0   |
| <b>Race/ethnicity and poverty status (whites)</b>    |              |       |                                  |       |                            |       |            |       |         |       |
| Hispanic   | 858          | 6.2   | 781                              | 5.9   | 97                         | 9.9   | 67         | 8.0   | 30      | 17.4  |
| Black  | 1,402        | 13.8  | 1,188                            | 12.4  | 214                        | 29.2  | 203        | 35.3  | 11      | 5.4   |
| White, not poor                                      | 2,475        | 73.8  | 2,338                            | 75.8  | 137                        | 49.7  | 96         | 46.1  | 41      | 64.1  |
| White, poor  | 816          | 6.4   | 708                              | 6.1   | 107                        | 11.1  | 80         | 10.7  | 27      | 13.1  |
| <b>Region of residence at age 14</b>                 |              |       |                                  |       |                            |       |            |       |         |       |
| Northeast  | 1,081        | 21.4  | 990                              | 21.7  | 91                         | 16.4  | 79         | 18.1  | 12      | 9.8   |
| North Central  | 1,436        | 31.4  | 1,298                            | 31.4  | 138                        | 30.9  | 116        | 32.4  | 22      | 24.8  |
| South  | 1,922        | 29.8  | 1,711                            | 29.4  | 211                        | 35.1  | 158        | 30.6  | 53      | 52.6  |
| West   | 902          | 14.7  | 804                              | 14.6  | 98                         | 15.6  | 81         | 17.0  | 17      | 10.2  |
| Other  | 30           | 0.2   | 27                               | 0.2   | 3                          | 0.2   | 1          | 0.1   | 2       | 0.8   |
| No answer  | 179          | 2.6   | 165                              | 2.7   | 14                         | 1.8   | 11         | 1.8   | 3       | 1.9   |
| <b>Urban-rural residence at age 14</b>               |              |       |                                  |       |                            |       |            |       |         |       |
| Urban  | 4,351        | 77.7  | 3,902                            | 77.8  | 449                        | 77.1  | 384        | 77.3  | 65      | 76.6  |
| Rural  | 1,181        | 22.0  | 1,080                            | 22.0  | 107                        | 21.6  | 77         | 21.1  | 24      | 23.4  |
| No answer  | 18           | 0.3   | 13                               | 0.2   | 5                          | 1.3   | 5          | 1.7   | 0       | 0.0   |
| <b>Religion as child</b>                             |              |       |                                  |       |                            |       |            |       |         |       |
| Catholic   | 1,811        | 32.3  | 1,671                            | 32.7  | 140                        | 26.0  | 107        | 25.5  | 33      | 29.5  |
| Protestant (fund.)                                   | 1,859        | 27.5  | 1,595                            | 26.2  | 264                        | 44.7  | 220        | 45.1  | 44      | 42.9  |
| Protestant (other)                                   | 1,249        | 27.8  | 1,166                            | 28.6  | 83                         | 16.8  | 63         | 16.0  | 20      | 20.0  |
| Other  | 345          | 7.5   | 316                              | 7.7   | 29                         | 5.9   | 22         | 6.0   | 7       | 5.5   |
| None   | 257          | 4.6   | 220                              | 4.4   | 37                         | 6.2   | 32         | 7.2   | 5       | 2.1   |
| No answer  | 29           | 0.5   | 27                               | 0.3   | 2                          | 0.2   | 2          | 0.2   | 0       | 0.0   |
| <b>Lived with 2 parents or stepparents at age 14</b> |              |       |                                  |       |                            |       |            |       |         |       |
| Yes  | 4,241        | 83.0  | 3,872                            | 83.8  | 369                        | 71.9  | 284        | 69.3  | 85      | 81.8  |
| No   | 1,300        | 16.8  | 1,116                            | 18.1  | 184                        | 27.1  | 160        | 29.4  | 24      | 18.1  |
| No answer  | 9            | 0.2   | 7                                | 0.1   | 2                          | 1.1   | 2          | 1.3   | 0       | 0.0   |
| <b>Father's education (in yrs.)</b>                  |              |       |                                  |       |                            |       |            |       |         |       |
| <12  | 2,011        | 29.4  | 1,756                            | 29.5  | 255                        | 41.9  | 197        | 38.8  | 58      | 50.1  |
| 12   | 1,615        | 32.3  | 1,488                            | 32.6  | 129                        | 27.5  | 106        | 29.4  | 21      | 20.2  |
| 13-15  | 445          | 10.5  | 420                              | 10.8  | 25                         | 6.5   | 18         | 5.6   | 7       | 10.1  |
| ≥16  | 898          | 17.8  | 875                              | 18.7  | 23                         | 6.2   | 20         | 7.0   | 3       | 3.1   |
| No answer  | 781          | 9.9   | 658                              | 9.4   | 123                        | 17.8  | 103        | 18.2  | 20      | 16.5  |
| <b>Mother's education (in yrs.)</b>                  |              |       |                                  |       |                            |       |            |       |         |       |
| <12  | 2,113        | 28.2  | 1,825                            | 26.9  | 268                        | 46.1  | 222        | 42.7  | 66      | 59.6  |
| 12   | 2,142        | 45.3  | 1,976                            | 46.1  | 166                        | 35.5  | 140        | 39.7  | 26      | 19.1  |
| 13-15  | 486          | 10.6  | 457                              | 11.0  | 29                         | 5.2   | 24         | 4.9   | 5       | 6.5   |
| ≥16  | 413          | 10.2  | 400                              | 10.7  | 13                         | 2.6   | 13         | 3.3   | 0       | 0.0   |
| No answer  | 396          | 5.7   | 337                              | 5.3   | 59                         | 10.6  | 47         | 8.5   | 12      | 14.8  |
| <b>Age at fatherhood</b>                             |              |       |                                  |       |                            |       |            |       |         |       |
| 11-16  | na           | na    | na                               | na    | 66                         | 10.1  | 66         | 12.7  | 0       | 0.0   |
| 17   | na           | na    | na                               | na    | 85                         | 15.8  | 76         | 18.3  | 9       | 5.8   |
| 18   | na           | na    | na                               | na    | 181                        | 30.8  | 158        | 32.8  | 23      | 22.1  |
| 19   | na           | na    | na                               | na    | 223                        | 43.5  | 146        | 36.2  | 77      | 72.0  |

Notes: In this and subsequent tables, frequencies are unweighted; in Tables 2 and 5, percentages are weighted, and distributions do not add to 100 percent in all cases because of rounding. In this and subsequent tables, na = not applicable.

ing of the child's correct birth date r have also been more common among thers who were less involved with th children, but such discrepancies are pably less systematic than the failure to rep a birth altogether. Consequently, a subsample of teenage fathers, particula when it is restricted to those whose ch was conceived nonmaritally, may be bia toward young fathers whose degree involvement in fatherhood is above av age. Thus, caution is warranted when g eralizing from these data. At the same ti however, it can be argued that these c are more reliable than cross-sectional d since problems of misreporting were solved among 41 percent of the resp dents whose records were inconsistent

### Background Characteristics

Throughout this article, reported frequcies are unweighted, and percentages weighted. Of the 6,054 males intervie in both 1979 and 1984, 582 had fath their first child before they had turne and in 459 cases, the child had been ceived nonmaritally. As of the 1984 su date, 5,550 male respondents were 2 years of age, 555 had had their first before age 20, and 446 of these births been nonmaritally conceived. There nearly 78 percent of the teenage fathers were 20-27 years old in 1984 were re sible for a nonmaritally conceived child. However, 32 percent married v 12 months of conception, while 20 pe were already married prior to or arou time of their first child's conception.

Of the 446 teenage fathers responsi a nonmaritally conceived first child had become fathers sometime be 1978 and 1984. The remaining 148 te fathers reported that their first child been born in 1977 or earlier; these f were disproportionately young: Fifty percent had become fathers wher were 17 or younger, compared with 1 percent of the males whose first chil born in 1978 or later. Consequently, ses undertaken in this article that rely living-arrangement variable are bas somewhat older than average sam teenage fathers. In addition, this had about six percent fewer blacks th group of teenage fathers whose fir was born before 1978. Fifty percent sample of young men lived with the shortly after the child's birth, and 22 of those who lived with their chil also living with one or both of their or in-laws at the first observation p

In the subsequent analyses, tabu on high school completion patt

**Table 2. Percentage of male NLSY participants who had a child as a teenager, by marital status at conception and age at first birth, according to race/ethnicity and poverty status (among whites)**

| Marital status and age | Total<br>(N= 5,550) | Race/ethnicity       |                     |                              |      |
|------------------------|---------------------|----------------------|---------------------|------------------------------|------|
|                        |                     | Hispanic<br>(N= 858) | Black<br>(N= 1,402) | White<br>(N= 2,475) (N= 815) |      |
|                        |                     |                      |                     | Not poor                     | Poor |
| Total                  | 6.8                 | 10.9                 | 14.8                | 4.6                          | 11.9 |
| Nonmarital             | 5.5                 | 7.0                  | 14.2                | 3.4                          | 9.1  |
| 11-17                  | 1.7                 | 2.6                  | 5.8                 | 0.7                          | 3.4  |
| 18-19                  | 3.8                 | 4.4                  | 8.4                 | 2.7                          | 5.7  |
| Marital                | 1.3                 | 3.9                  | 0.6                 | 1.2                          | 2.8  |

young fathers are restricted to the young men who were 20-27 years of age at the 1984 survey. When school completion patterns are discussed for those who lived with their nonmaritally conceived first child and for those who did not, these patterns represent the experience only of the 296 teenage fathers whose child was born after 1977. This restricted sample is also used in the multivariate analyses. In addition, a larger sample of 1,253 males who were 14 or 15 years of age in 1979 is analyzed in order to address (to the extent possible) the impact of educational expectations and the number of years of schooling completed prior to the pregnancy. Sixty-one of the young men who had a child after the 1979 survey were unmarried teenagers when they conceived that child.

Table 1 summarizes the background characteristics of the total NLSY sample, of the males who fathered their first child when they were at least 20 years of age or who had not yet done so by 1984, of all teenage fathers, of teenage fathers whose first child was nonmaritally conceived and of teenage fathers whose first child was maritally conceived. Relatively speaking, the data show quite clearly that young black men were much more likely to have been responsible for a nonmarital pregnancy resulting in a first birth than were males of other racial backgrounds: Only 13.6 percent of the overall sample of males was black, compared with 35.3 percent of the young fathers who were responsible for a nonmarital conception. Likewise, compared with the overall sample, males who had not lived with two parents at age 14 were overrepresented in the subsample of teenage fathers, as were those with a fundamentalist Protestant background. In addition, young fathers whose first child was nonmaritally conceived were more likely

than those who were not responsible for a teenage birth to have parents who had not completed high school, and were less likely to have college-educated parents.

#### Race, Age and Marital Status

Table 2 shows the percentage of 20-27-year-old males who had a nonmarital or marital birth as teenagers, analyzed by race or ethnicity and by poverty status (among whites only; see Appendix for rationale). Overall, 6.8 percent of young males had a child while they were teenagers, and 5.5 percent had a nonmaritally conceived first child. If we assume that nonmarital conceptions were unplanned, these results suggest that at least 80 percent of the first births to teenage fathers were unplanned. About 25 percent of all teenage births were nonmarital conceptions by males who were aged 17 or younger at childbirth. Another 56 percent were nonmaritally fathered by males 18-19 years of age at the time of childbirth, and only about 19 percent of first births were fathered by adolescent males who were married at the time of conception.

While blacks were three times more likely than nondisadvantaged whites to have fathered a child as a teenager (14.8 percent compared with 4.6 percent), they were only slightly more likely to have done so than were poor whites (who constituted about eight percent of the white sample) or Hispanics (11.9 percent and 10.9 percent, respectively). Each of these comparisons was statistically significant ( $p < 0.01$ ). These patterns between blacks and other young men were more pronounced when nonmarital conceptions only were considered. Whereas 14.2 percent of black males fathered a first child nonmaritally, only 3.4 percent of nondisadvantaged whites, 9.1 percent of poor whites and 7.0 percent of Hispanics did so.

This general pattern can also be observed when attention is focused on the 11-17-year-old fathers of nonmaritally conceived children: In this age-group, 5.8 percent of black males had fathered a nonmaritally conceived child; they were significantly more likely to have done so than were nondisadvantaged whites (0.7,  $p < 0.01$ ) or Hispanics (2.6,  $p < 0.05$ ). Although blacks in this age-group were somewhat more likely to have fathered a child nonmaritally than were poor whites (3.4 percent), the difference was not statistically significant. Black males were least likely to have had a marital birth during their teenage years (0.6 percent)—significantly less likely than were Hispanics or poor whites (3.9 percent and 2.8 percent, respectively,  $p < 0.01$ ).

It is also noteworthy that nearly three-

**Table 3. Among teenage fathers participating in the NLSY who were 20-27 years of age at the time of their 1984 survey, regression models for the likelihood that they were living with their nonmaritally conceived child at the first observation point after the child's birth and that they would marry their partner within 12 months of conception**

| Variable   | Model             |                | Model                                  |                |
|--|-------------------|----------------|--|----------------|
|  | Living with child | Standard error | Married within 12 months of conception | Standard error |
|  | b                 |                | b                                      |                |
| Race/ethnicity and poverty status                |                   |                |  |                |
| Hispanic   | -0.347**          | 0.121          | -0.377**                               | 0.116          |
| Black  | -0.505**          | 0.078          | -0.546**                               | 0.075          |
| Poor white                                       | -0.133            | 0.096          | -0.052                                 | 0.092          |
| Lived in South at age 14                         | 0.046             | 0.071          | 0.062                                  | 0.068          |
| Lived in urban area at age 14                    | -0.113            | 0.066          | -0.135*                                | 0.066          |
| Raised Catholic                                  | 0.145*            | 0.072          | 0.211**                                | 0.069          |
| Religious attendance in past yr. (asked in 1978) |                   |                |  |                |
| Several times per yr. or not at all              | 0.101             | 0.073          | 0.017                                  | 0.070          |
| 1-3 times per mo.                                | 0.052             | 0.086          | -0.063                                 | 0.082          |
| ≥ Once per wk. (reference category)              | -                 | -              | -                                      | -              |
| Parental education                               |                   |                |  |                |
| <12 yrs.   | -0.059            | 0.064          | -0.092                                 | 0.061          |
| 12 yrs. reference category                       | -                 | -              | -                                      | -              |
| >12 yrs.   | 0.037             | 0.085          | -0.083                                 | 0.082          |
| Lived with two parents at age 14                 | 0.085             | 0.067          | 0.042                                  | 0.064          |
| Fathered child at ages 11-16                     | -0.209*           | 0.099          | -0.141                                 | 0.095          |
| Baby after graduation                            | 0.059             | 0.061          | 0.127*                                 | 0.059          |
| Intercept  | 0.659             | na             | 0.705                                  | na             |
| Adjusted R <sup>2</sup>                          | 0.317             | na             | 0.372                                  | na             |
| F  | 9.514**           | na             | 11.896**                               | na             |
| N  | 239               | na             | 239                                    | na             |

\* $p < 0.05$ .

\*\* $p < 0.01$ .

**Table 4.** Among white teenage fathers participating in the NLSY who were 20–27 years of age at the time of their 1984 survey, regression models for the likelihood that they were living with their nonmaritally conceived child at the first observation point after the child's birth and that they had married their partner within 12 months of conception

| Variable  | Model             |                |  |                |
|---|-------------------|----------------|--|----------------|
|   | Living with child |                | Married within 12 months of conception |                |
|   | b                 | Standard error | b                                      | Standard error |
| Lived in South at age 14                          | 0.072             | 0.153          | 0.060                                  | 0.161          |
| Lived in urban area at age 14                     | -0.212*           | 0.096          | -0.240*                                | 0.101          |
| Raised Catholic                                   | 0.193*            | 0.095          | 0.261**                                | 0.100          |
| Religious attendance in past year (asked in 1979) |                   |                |  |                |
| Several times per yr. or not at all               | 0.118             | 0.121          | 0.044                                  | 0.128          |
| 1–3 times per mo.                                 | 0.043             | 0.152          | -0.085                                 | 0.150          |
| 2 or less per wk. (reference category)            | —                 | —              | —                                      | —              |
| Parental education                                |                   |                |  |                |
| <12 yrs.  | 0.098             | 0.113          | -0.073                                 | 0.119          |
| 12 yrs. (reference category)                      | —                 | —              | —                                      | —              |
| >12 yrs.  | 0.045             | 0.121          | -0.078                                 | 0.127          |
| Lived with two parents at age 14                  | 0.319**           | 0.123          | 0.061                                  | 0.129          |
| Fathered child at ages 11–16                      | -0.412*           | 0.189          | -0.323                                 | 0.200          |
| Baby after graduation                             | 0.106             | 0.096          | 0.184                                  | 0.103          |
| Intercept   | 0.432             | na             | 0.703                                  | na             |
| Adjusted R <sup>2</sup>                           | 0.141             | na             | 0.110                                  | na             |
| F   | 2.640**           | na             | 2.240*                                 | na             |
| N   | 100               | na             | 100                                    | na             |

\* $p < 0.05$ . \*\* $p < 0.01$ .

quarters of the youths were 18 or 19 at the time their first child was born (see Table 1). Less than two percent of the entire sample had conceived a child, either nonmaritally or maritally, before age 18. Not only were blacks more likely to have been teenage fathers than were other adolescents, they also were more likely to have done so at younger ages: Nearly 23 percent of black teenage fathers in this sample were 11–16 years old when their nonmaritally conceived first child was born, compared with

6.2 percent among nondisadvantaged whites, 11.1 percent among disadvantaged whites and 9.1 percent among Hispanics (data not shown in table).

#### Living Arrangements And Marriage Patterns

Bivariate and multivariate analyses were conducted to determine what factors are related to the propensity of young fathers to either marry or live with the mother of their nonmaritally conceived first child.<sup>4</sup> The bivariate analyses highlighted the tendency of black males not to marry or live with the mother of their nonmaritally conceived first child: Only 15 percent of black teenagers lived with their first child, compared with 48 percent of Hispanics, 77 percent of nondisadvantaged whites and 58 percent of poor whites. (Each differential was statistically significant at  $p < 0.01$ .)

In order to better determine the influence of such factors as parental education, number of parents in the teenager's family, religious background and urban residence, independent of racial influences, multivariate analyses were performed using the sample of fathers responsible for nonmaritally conceived first births. (Ordinary least-squares regressions and the more appropriate logit analyses were performed on the dichotomous dependent variables. Since the substantive results of these techniques were very similar, the regression results are reported here because they are more readily interpretable. The variables used in the regression analysis are described in the Appendix.)

These analyses indicated that only a few variables were significantly related to the initial living arrangements of young fathers (see Table 3, see page 245). Being black or Hispanic or having fathered a child at age 16 or younger were associated with a significantly lowered probability that the teenage father lived with his first child. Having been raised Catholic was related to a significantly higher probability of living with the child. One surprising finding was that the variable differentiating births that occurred when the father was in school or out of school was not significantly related to the respondents' living arrangements: A teenage father whose child was born after he had graduated or had left school was no more or less likely to have lived with his child than was a father whose child was born before he had graduated or had dropped out of school. (This finding should be interpreted cautiously, however, because the timing information for many respondents was not ideal, particularly for dropouts and GED recipients.<sup>5</sup>)

In the model estimating the chance the young father would marry within months of the child's conception (see half of Table 3), being black or Hispanic, having lived in an urban area at age 14, negatively related to the likelihood of marriage, while having been raised Catholic and having had the baby after high school graduation were positively related. Unlike the case of the living-arrangement model, having fathered a child at or before age 16 was not a significant predictor of the propensity to marry after a nonmarital conception.<sup>6</sup>

In a separate step-wise regression analysis, being black accounted for about 10 percent of the total variance explained by the set of independent variables (results shown). In the context of the measured variables in this research, then, being black is clearly the most significant predictor of initial living arrangements for young fathers, while the remaining variables are of limited predictive value.

Since race is an important predictor of initial living arrangements and mar-

<sup>4</sup>Before these analyses were conducted, consideration was given to conducting supplemental analyses focused directly on the experiences of the young father who committed themselves initially to living with their partner and child. Although the initial decision together is obviously very important and perhaps more so for many young men and women, the father's decision whether to remain with his partner and child may be equally significant. The transitory nature of teenage marriages is well documented. (See Kellam et al., "The Long-Term Evolution of the Structure of Teenage and Older Mothers," *Journal of Marriage and the Family*, 44:539, 1982; and K. A. and L. Waite, "Marital Dissolution, Early Motherhood and Early Marriage," *Social Forces*, 60:20, 1981.) The experiences of young fathers who not only lived with their partner and child initially but who also lived with them for at least a couple of years were examined. The NLSY data were not specific enough to consider issues pertinent to these living arrangements, so the ability of these data to characterize this group of young fathers was limited. All 87.8 percent of young fathers who lived with their child at the initial observation point after the birth were also living with the child at the next observation date. Given that the unweighted sample was  $N=97$  and that there were so few young fathers who were not living with their child, these two groups of teenage fathers could not be compared in an analysis of living arrangements therefore limited to the first observation point after the birth.

<sup>5</sup>These analyses were also performed without identifying the timing of fertility relative to graduation, since 33 cases were omitted because of missing values. The substantive results were not altered.

<sup>6</sup>A supplemental analysis was conducted of fathers who did not marry within the 12 months of conception to determine whether certain background factors significantly predicted the probability that a young man would live with his child. No variables were statistically significant predictors.

patterns for young fathers, separate regression models were estimated for whites and for blacks to assess possible interactions associated with race. (Unfortunately, there were too few Hispanic and poor white adolescent fathers in the NLSY to examine these groups individually.) The models presented in Table 4 are for whites only, since none of the variables were significant for blacks. The models are identical to those of the previous analysis, except that the dummy variables for race were eliminated.

For white teenage fathers, having been raised Catholic, having lived with two parents, having lived in a rural area and having had a child at ages 17-19 were associated with a significantly greater likelihood of living with their child. As for the young fathers' propensity to marry within a year of conception, those who had lived in a rural area, who had been raised Catholic and who had fathered the baby after graduation were more likely to have done so (although the last factor was only marginally significant,  $p < 0.10$ ). It is surprising that none of the variables were significant for blacks; this would suggest that unmeasured factors are responsible for the strength of the race variable in the earlier analyses of the entire sample.

#### High School Completion

In addition to analyzing the relationship between sociodemographic variables and initial living arrangements and marital patterns of young fathers, it is useful to consider the high school completion patterns of teenage fathers (those who were responsible both for nonmarital and for marital conceptions) and of their counterparts who remained childless throughout their teens.

Table 5 presents a comparison of high school completion among teenagers who fathered their first child nonmaritally at ages 11-17 and 18-19, among teenage fathers whose first child was maritally conceived, and among a comparison group of males who, prior to the 1984 survey, had not fathered a child during their teenage years. This table reveals several notable patterns. First, irrespective of their marital status or age at conception, a substantially higher proportion of teenage fathers than of the comparison group were high school dropouts. Teenage fathers with a maritally conceived child had a particularly high drop-out rate: Whereas 41 percent and 35 percent, respectively, of the 11-17-year-old and 18-19-year-old teenage fathers responsible for nonmaritally conceived births were high school dropouts, 62 percent of the married teenage fathers had not com-

Table 5. Percentage distribution of 20-27-year-old male participants in the 1984 NLSY survey, by high school completion status, according to fertility experience

| Fertility experience                             | N     | High school completion status |                   |                       |                          |      | Dropouts of 1984 survey | Total |
|--|-------|-------------------------------|-------------------|-----------------------|--------------------------|------|-------------------------|-------|
|  |       | Graduated                     |                   |                       |                          |      |                         |       |
|  |       | All                           | GED before age 20 | Diploma before age 20 | GED or diploma at age 20 |      |                         |       |
| Total  | 5,381 | 84.1                          | 4.3               | 75.8                  | 4.0                      | 16.0 | 100.0                   |       |
| First birth at age 11-17, conceived nonmaritally | 136   | 59.4                          | 11.3              | 39.6                  | 8.5                      | 40.7 | 100.0                   |       |
| First birth at age 18-19, conceived nonmaritally | 268   | 65.0                          | 3.7               | 52.6                  | 8.7                      | 35.1 | 100.0                   |       |
| First birth at age 11-19, conceived maritally    | 107   | 38.6                          | 10.4              | 21.0                  | 7.2                      | 61.5 | 100.0                   |       |
| None or first birth conceived at age 20          | 4,850 | 85.0                          | 4.1               | 78.2                  | 3.7                      | 14.1 | 100.0                   |       |

Note: Graduation status could not be determined for a small percentage of cases; these were omitted from the table. The background characteristics of the omitted cases were similar to those of the overall sample.

pleted high school by the 1984 survey. Taken separately or together, these data stand in stark contrast to the 14 percent drop-out rate for the comparison group. Even though teenage fathers were twice as likely as the comparison group to have received their high school certification, either in the form of a GED certificate or diploma, at 20 years of age or older, their overall graduation rates were still much lower: Eighty-six percent of males who had not been teenage fathers received certification for high school, compared with only 39-65 percent of the various groups of teenage fathers. Teenage fathers, particularly the youngest ones responsible for nonmarital conceptions and all those responsible for marital conceptions, were more likely to have obtained GED certification before their 20th birthday than were males who had not been teenage fathers. While almost 14 percent of all teenage fathers earned a GED certificate, only 6.5 percent of all other males in the NLSY had received this form of educational certification (results not shown).

Additional analyses show that males who fathered a child when they were 11-16 years old were, in relative terms, the most likely to have earned a GED certificate (32.6 percent), a finding consistent with previous research on young mothers.<sup>13</sup> This group of young fathers was about as likely to have graduated as were either 17-year-old or 18-year-old fathers. Fatherhood was clearly outside the normative sequence of life events for the younger teenagers, but the fact that they were so young may have enabled them to complete high school, since they were probably not encouraged to assume new family responsibilities. Indeed, males who fathered children at 11-16

years of age were much less likely to have married within the 12-month period immediately following the estimated date of conception than were older teenage fathers (5.5 percent, compared with 42 percent of the 17-19-year-olds).

Since a teenage father's decision whether or not to live with his nonmaritally con-

Table 5. Among teenage fathers participating in the NLSY who were 20-27 years of age at the time of their 1984 survey and whose child was born before certification or date of leaving school, multivariate logit model for the likelihood that they had earned a diploma or GED certificate by the 1984 survey

| Variable   | Logit model coefficient |
|--|-------------------------|
| Race/ethnicity and poverty status                    |                         |
| Hispanic   | 0.576                   |
| Black  | 1.602**                 |
| Poor white   | 0.688                   |
| Lived in South at age 14                             | -0.267                  |
| Lived in urban area at age 14                        | -0.223                  |
| Parental education                                   |                         |
| <12 yrs.   | -0.121**                |
| 12 yrs. (reference category)                         | -                       |
| >12 yrs.   | 0.107                   |
| Lived with two parents at age 14                     | 0.248                   |
| Fathered child at ages 11-16                         | 0.618                   |
| Lived with child at first survey after child's birth | -0.361                  |
| Intercept  | -0.229                  |
| Likelihood ratio                                     | 85.98                   |
| N  | 141                     |

\*\* $p < 0.01$ .

ceived first child may affect his progression through school and his ultimate high school completion status, it is important to take into account the temporal ordering of the birth and educational events if a causal relationship between living arrangements and high school outcomes is to be inferred. This is especially true since many fathers will have completed high school or dropped out before their child is born. Therefore, the next analysis focuses on the 160 teenage fathers who reported a date for their first child's birth that preceded the date on which they either received their diploma or GED certificate or left high school for the last time.

Among such teenage fathers, 72 percent of those who were responsible for a non-maritally conceived first birth and who lived with their child shortly after the child's birth had not completed high school by the 1984 survey, compared with 53 percent of those who did not live with their child; this differential was statistically significant at  $p < 0.05$ . In addition, those who had not lived with their child were significantly more likely ( $p < 0.05$ ) to have received either a diploma (22 percent) or GED certificate (25 percent) than were their counterparts who had lived with their child (11 percent and 17 percent, respectively).

This sample was also used to examine in a multivariate context the relationship between initial living arrangements and the probability of having graduated from high school.\* With the exception of religion, all of the variables used here were the same as those used as controls in the earlier multivariate models. Table 6 (see page 247) reveals that after these background factors were controlled for, living with his child shortly after birth was not significantly related to a teenage father's probability of completing high school. Being black was positively associated with a higher probability of graduating ( $p < 0.01$ ), while having a parent who had attained fewer than 12 years of education (see Appendix) was negatively related to the probability of graduating ( $p < 0.01$ ). However, having fathered a child at age 16 or younger was not related to graduation status.

One could interpret the racial difference to mean that norms or social and familial supports are more influential for young black males in minimizing the possible deleterious effects of teenage fatherhood on schooling than is the case for young white males. However, the fact that so few black

males lived with their child impedes any assessment of whether having actually lived with one's child is somehow less detrimental for black teenage fathers than it is for whites. It is possible that the blacks who chose to live with their child may have been different from whites who did so in ways that the background control variables did not take into account. For example, there may have been a self-selection bias, whereby mostly industrious, highly competent black males had more of an opportunity to live with their child. As was noted earlier, many parents of young women with black teenage partners appear likely to dissuade their daughters from marrying or living with the young men, particularly if they are perceived as being poor financial risks.

Young males who both become teenage fathers and drop out of school may have been retarded in their school progress even before fathering a child. Among a subsample of young males who were 14 or 15 years of age at the time of the 1979 survey and who had not yet fathered a child, the educational expectations (as measured prior to the birth of a child) and outcomes among those who went on to father a child as teenagers were compared with the expectations and outcomes among those who did not. There were no significant differences in mean attained grade level as of the 1979 survey between those who eventually experienced a nonmaritally conceived first birth and those who did not (8.04 and 8.00, respectively). However, there was a significant difference in the number of years of schooling that respondents from these two groups said they expected to complete: Prior to fatherhood, the teenage fathers anticipated completing significantly fewer years of schooling than did their peers who were not responsible for an unplanned birth as teenagers (12.6 compared with 14.0,  $p < 0.01$ ). Consistent with this finding, the teenage fathers had completed significantly fewer years of school at the time of the 1984 survey than had the comparison group (11.1 compared with 11.7,  $p < 0.01$ ).

#### Discussion

Previous studies of adolescent pregnancy and childbearing have neglected to examine systematically how teenage males respond to their unplanned fertility and how their lives may be influenced by assuming the social role of father. Therefore, research focused on the propensity of teenage fathers to live with their nonmaritally conceived first child, and the effect this has on their high school education, is timely.

If they are given the opportunity, young

males who are responsible for an unplanned pregnancy are faced with the decision of whether to make a formal commitment to their child and their partner (getting married), to make an informal commitment by living with them outside of marriage, or to do neither. Unfortunately, the only information in the NLSY data set that was relevant to this issue dealt with the living arrangements of the child and the father, with the father's marital status. The indicator of commitment to fatherhood used here was therefore restricted to a measure of household structure and could not address important aspects of paternal behavior. The socioeconomic constraints affecting young men's behavior. Despite its shortcomings, however, the living-arrangement variable measures a significant gesture on the young father's part.

The bivariate analyses indicate that a number of characteristics are associated with the respondent's living with his partner or marrying to legitimize a birth, but only a few variables are useful predictors in a multivariate context. Not surprisingly, being black or Hispanic is strongly and negatively associated with getting married within a year of the child's conception and living with the child.

While none of the variables are significant predictors of living arrangements, marriage for blacks, several are significant when the model is restricted to whites. Living in a rural area, being relatively Catholic at the child's birth, having been Catholic and having lived with both parents at age 14 are associated with an above average probability that the father will live with his child, at least initially. However, only rural residence and having been Catholic are important predictors of marriage. Given that being black is associated with a lower probability of living with his child and getting married when compared with the experience of nondisadvantaged whites (controlling for poverty among whites), the results described in this article suggest that different factors influence the patterns for living with a child among whites and among blacks. (It should be noted that the dummy variable for advantaged whites is not a significant predictor.)

Teenage fathers whose first child is nonmaritally conceived have the poorest school completion patterns, even when compared with the patterns observed among those responsible for an unplanned birth at a relatively young age. The fact that the percentage of males who married and then a child graduated from high school by their 20th birthday is alarming. This p

\*The dependent variable was a dummy variable that categorized the recipients of diplomas or GED certificates as 1 and the dropouts as 0.

supports the notion that young males who tend to be unsuccessful in an academic environment drop out of school and look to other kinds of social roles—husband and father—in search of personal fulfillment.

It is also quite clear that a sizable proportion of males 20–27 years of age at the time of the 1984 survey who fathered a nonmaritally conceived child as teenagers, whether or not they lived with their child initially, may have been at a distinct disadvantage in the labor market because of their poor educational credentials: Only about 63 percent of these young men had earned certification for high school, compared with roughly 86 percent of their peers who had not fathered a child as teenagers. While young men responsible for nonmaritally conceived first births were about twice as likely as those in the comparison group to have earned accreditation for high school via the GED program, the youngest group of fathers responsible for nonmarital conceptions was more likely than the group of older counterparts to obtain a GED certificate prior to their 20th birthday.

An important consequence of these school completion rates is that young fathers are hampered in their ability to contribute financially to the support of their partner and child. It is interesting to note in this context that in a sample of public high school students in one city, 32 percent of black males indicated that they would prefer to pay child support and ask their partner to assume custody of the child in the event of an unplanned pregnancy;<sup>16</sup> ironically, only three percent of young white males, the group most likely to be in a favorable position to provide financial assistance, indicated that they would prefer to do so. About equal percentages of whites and blacks opted for an arrangement that would enable them to live with the child and presumably contribute to the financial support of their household (45 percent and 43 percent). The apparent eagerness and presumed ability of young black men to provide financial assistance seems unrealistic, however, given current employment patterns among young black males and the economic status of black families in general.<sup>17</sup>

The NLSY data indicate that young fathers are likely to have acquired less education than their peers who did not father a child as teenagers, but it is not clear whether living with a child who was nonmaritally conceived (or even conceived within marriage) affects young men's school progression and educational attainment. As was noted previously, research has shown that young males who legitimate an unplanned

pregnancy by marrying before their child is born are less likely to be enrolled in school after the birth than are those who wait until after the child is born to marry or those who are already married when their child is conceived.<sup>18</sup>

Although the structure of the NLSY poses serious obstacles to conducting the sort of causal research that would clarify the association between commitment to fatherhood and educational outcomes, the multivariate model did test the hypothesis that teenage paternity accompanied by cohabitation leads to a lower probability of completing high school, at least in the short term. (Because the data used here were based only on the responses of young men 20–27 years of age in 1984, the long-term effects of teenage fatherhood on educational attainment could not be considered.) Among young males who fathered a child before they left school or before they received certification for high school, living with a child initially is not related to the probability of completing high school by earning a GED certificate or diploma. Being black is associated with a greater probability of completing school, although the finding is quite tentative; having a father who had not completed high school exerts the opposite effect. Although the NLSY data do not provide conclusive evidence of how living with a nonmaritally conceived child affects young men's educational behavior, these data do not suggest (as might have been expected) that living with a child is directly related to adverse educational consequences.

Before arriving at more definitive conclusions, though, we need to specify more fully and in a causal context the possible consequences of assuming the social responsibilities of fatherhood. In particular, research should attempt to determine the conditions under which assuming the role of father while a teenager retards or enhances\* a young male's chances of completing high school and fulfilling his educational plans. This type of research would help clarify whether or not the negative consequences thought to accompany teenage fatherhood are exaggerated, since youth who are predisposed to father children at young ages may initially have fundamentally different kinds of life goals than those of their peers who do not father a child. It would be important to know, prior to conception, the young men's educational expectations, academic performance level and motivation for performing well in school, in order to assess the extent to which young males fulfill or alter their personal educational expectations. As the NLSY

data have shown, among 14–15-year-olds in 1979, those who would ultimately become adolescent fathers of nonmaritally conceived children had lower educational expectations than did their peers who did not experience an unplanned pregnancy that resulted in a first birth.

Our understanding of how the consequences of early fatherhood are mediated will be enhanced if we can focus attention on the teenage father's partner and parents. Is the young man's partner supportive of his educational goals, and if so, how is this support manifested? For example, does she assume primary responsibility for financially supporting the family? What are her personal educational and career goals, and how inclined is she to lower her expectations or postpone her plans in order to facilitate her partner's education? What is the young man's role in helping or hindering his partner fulfill her educational goals? Is it explicitly or tacitly assumed that the young father's educational plans should take precedence?

Not surprisingly, a previous study has shown parental education to be an important predictor of educational attainment among NLSY teenage fathers,<sup>19</sup> particularly among young males who live with their child.† However, research has not specified how parental education enhances a young father's educational attainment. Is a teenage father's educational career aided because he has developed high aspirations, or are the financial resources that generally accompany higher parental educational levels responsible for providing the young male with the means to meet his financial responsibilities to his new family without disrupting his own career? This issue could be clarified if future research included measures of parental assistance and transfer payments, so that researchers could assess the extent to which resources are available to a young father and determine to what extent these resources improve his opportunities to pursue further education. Such financial assistance would probably be associated with a greater likelihood of

\*A teenage birth is usually thought of as a destabilizing factor in young parents' lives, but the demanding responsibilities associated with raising a child may help young fathers who live with their child develop a more mature perspective than do their counterparts. In turn, this view of life may encourage them to take greater advantage of educational opportunities.

†The measure of cohabitation used in this earlier research was not as accurate as the measure used here, since it included all teenage fathers regardless of the year in which their child was born. The first observation point (1979) may therefore have been at least several years after the child's birth.

completing more years of schooling for young fathers living with their child. Fathers who receive minimal or no outside financial assistance but who live with their child would be more likely to become permanent dropouts (or GED participants if they did graduate), and to complete fewer years of education overall.

The National Research Council's Panel on Adolescent Pregnancy and Childbearing recently emphasized the importance of economic well-being for teenage families, particularly for those in which the parents have not yet completed high school. The panel proposed that "ensuring the economic security of teenage families until they are able to become self-sufficient is an essential strategy to achieving the larger goal of promoting positive outcomes for these young parents and their children and should involve partners, families, and the community."<sup>20</sup> One of the panel's objectives in this regard was to enhance the ability of young fathers to provide child support, perhaps by introducing public jobs programs that would enable young fathers to contribute financially to their child's support.

While this policy is not without merit, it is indicative of the larger dilemma facing some young fathers. More vigorous efforts to encourage or force young fathers to contribute to the financial support of their child may be at odds with the efforts of the parents of young mothers to dissuade them from living with the child's father. (The panel did not necessarily endorse such efforts.) Previous research and current societal wisdom suggest that young mothers who remain in their parent's home rather than move away on their own or with their partner may cope more successfully because they can more readily draw upon their family network for support and can thus more easily pursue their schooling.<sup>21</sup> Data presented in this article indicate that about half of teenage fathers responsible for nonmaritally conceived first births live with their child initially,<sup>22</sup> and other research has shown that a sizable proportion of young men would be willing to live with their steady girlfriend and child in the event of an unplanned pregnancy.<sup>23</sup> Apparently, then, a number of teenage fathers want to demonstrate a serious commitment to their child or their partner by living together; many might feel exploited, however, if they

were expected to provide financial support to their child but were prevented or discouraged from assuming a central role in the lives of their partner and child. If young fathers are to be held more accountable for their actions through the establishment of paternity and the enforcement of child-support payments, should their role and rights in regard to pregnancy resolution, family formation and custody discussions also be strengthened accordingly? Questions concerning whether living with a child negatively affects young men's (and young women's) educational careers, and if so, under what conditions, are clearly central to this issue.

Although the research described here contributes to our understanding of adolescent fatherhood, we still know very little about young fathers. However, recent developments in the research and health service communities portend a growing commitment to developing a research agenda and creating services that focus more directly on young fathers. Not only will teenage fathers receive more attention, but young fathers in their early 20s will too, since the fathers of children born to adolescent mothers are often beyond their teens.<sup>24</sup> Research both on teenage fathers and on older fathers whose partners are teenagers will contribute to a better general understanding of issues related to adolescent pregnancy and parenthood. By incorporating young males more fully into the concept of adolescent fertility, we will enhance our ability to develop viable policies that may reduce the number of unplanned adolescent pregnancies and help teenage mothers and fathers to lead productive lives.

#### Appendix

The following dummy variables, based on the results of the bivariate analyses, were used as independent variables for the multivariate analyses:

\* *Race/ethnicity/disadvantaged status.* Since there were considerable differences by racial or ethnic background or by poverty status in the initial likelihood that a young father would live with his child, separate dummy variables were created for black, Hispanic and poor white teenage fathers. The designation "Hispanic" refers to all respondents of Hispanic origin regardless of race, and "black" refers to all nonwhite, non-Hispanic respondents. Economically disadvantaged whites are distinguished from other whites in the NLSY data in order to supplement the conventional racial-ethnic breakdown of white, black and Hispanic. The Office of Management and Budget's criteria for poverty in 1978 (when

the sample was selected) was used to identify this group of poor whites. Unfortunately, about 20 percent of the family income data are missing for NLSY respondents, so blacks and Hispanics could not be differentiated according to family income criteria. As a result, this variable has only four possible values—Hispanic, black, nondisadvantaged white and disadvantaged white. Nondisadvantaged whites were used as the reference group.

\* *Geographical region at age 14.* A standard classification for regional residential status at age 14 (Northeast, North Central, South and West) was based on the *Federal Information Processing Standards*, Publication 5 June 15, 1970. Two regional variables were created—all four categories, and the South versus all others. The variable was focused on southern youth both because they were least likely to have lived with their child, and because this variable has been used in previous research.

\* *Urban-rural residence at age 14.* The urban-rural distinction is based on an item asked respondents where they were living at age 14. Respondents could indicate they lived in a town or city (urban), or elsewhere in the country but not on a farm or on a ranch (rural).

\* *Religious socialization and church attendance in 1979.* The childhood religious affiliation of respondents was determined using the following question: "In what religion were you raised?" For descriptive purposes, respondents were classified according to whether they were raised as Catholic, fundamentalist Protestants, as other Protestants or as members of any other religion (including those who did not identify themselves with a religion). Consistent with a strategy implemented elsewhere,<sup>25</sup> all Baptists were classified as fundamentalists, since Southern Baptists predominate within this group and others have argued that even non-Southern Baptists are more fundamentalist in their views than are members of non-fundamentalist religions.<sup>26</sup> The National Longitudinal Research Center's (NORC's) scheme<sup>26</sup> was used to differentiate between all other fundamentalists and non-fundamentalist Protestants. (Biblical literacy and aspects of religious activities were major criteria for NORC's designations.) Religious upbringing was studied by comparing Catholics to all others but Catholics; youth were most likely to live with their children, and fundamentalist Protestants did not appear to be different from their nonfundamentalist counterparts.

Church attendance as of the 1979 view was assessed by means of the

<sup>20</sup>This estimate is likely to be exaggerated slightly because the sample upon which it is based is comprised of a disproportionate number of older teenage fathers. Moreover, those who were less committed to paternal responsibilities were probably less likely to report births.

ing question: "In the past year, about how often have you attended religious services—more than once a week, about once a week, two or three times a month, about once a month, several times or less during the year, or not at all?" This information was used to create multiple dummy variables to represent low, medium and high levels of religious commitment in 1979: One identified those who had attended religious services several times a year or not at all, and another identified those who had attended 1–3 times a month; the reference group consisted of those who had attended once a week or more.

• *Household composition at age 14.* Two categories were distinguished—living with two parents and all other arrangements. Respondents were considered to be living with two parents at age 14 if they said that they were living with either their mother and father, father and stepmother or mother and stepfather at age 14.

• *Parental educational attainment.* Respondents were asked how many years of completed schooling their natural mother and natural father had obtained as of the 1979 survey. However, to minimize the problem of missing data, paternal education was used rather than separate paternal and maternal education variables. Paternal education utilized a series of dummy variables as well: One identified fathers (or mothers, in the absence of a father) who had not completed 12 years of schooling, and the other identified fathers who had completed at least 13 years of schooling; the reference group consisted of fathers who had completed exactly 12 years of school.

• *Others.* Family structure at age 14 was examined in the same way as in the bivariate analyses (urban-rural). Since the bivariate results indicated that 11–16-year-old fathers were much less likely to have lived with their children than were older teenage fathers, a dummy variable was used to identify the former group. Finally, since the propensity of a teenage father to live with his first child might be affected by whether he had completed high school by the time of childbirth, a variable that identified whether the birth had occurred before the date a respondent received a diploma or GED certificate or before he had left high school for the last time (if he was a dropout) was also included.

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# Fathers of Children Born To Young Urban Mothers

By Janet B. Hardy, Anne K. Duggan, Katya Masnyk and Carol Pearson

## Summary

Fathers of babies born to a sample of urban mothers younger than 18 at delivery ranged in age from 14–50 and were, on average, 2–4 years older than the mothers. Among the adolescent women who had given birth to their first child, 28 percent of the partners of black women and 45 percent of the partners of white women were 20 years of age or older. The educational attainment of the fathers was very low, particularly among older whites. At approximately 15 months after the child's birth, 36 percent of the fathers were neither in school nor working.

Three-quarters of the pregnancies among the young white mothers and 95 percent of those among the black mothers were unplanned, but only six percent of the white mothers and 16 percent of the black mothers were using a contraceptive at the time of conception. Only 16 percent of the fathers were living with or married to the mother of their child at 15 months after birth. About 90 percent of the fathers had spent time with their child during that period, but frequency of contact declined markedly with time. Overall, 20 percent of the fathers had children by other women.

## Introduction

The role played by the male in the problem of adolescent pregnancy in the United States has received increasing attention in recent years. Many of the studies of young fathers have shown that they, like teenage

**“Only one in six children born to young teenagers in Baltimore lived with the father, while a . . . large number of the fathers lived with their own parents. Moreover, one father in five had at least one other child by a different woman.”**

mothers, tend to be from among the poorer and less educated groups in society, and that they may face serious and long-term social and economic disadvantages, when compared with young men who postpone parenting until a later age.<sup>1</sup>

The existing data on adolescent fathers suffer from serious shortcomings, however. Adolescent fathers are difficult to reach in any systematic way, because a great deal of demographic information about them is missing, especially in some parts of the country, and because an unknown but considerable proportion of men deny paternity.<sup>2</sup> To complicate matters, some studies include only teenage fathers, while others cover fathers in their early 20s.<sup>3</sup>

Even when studies include men in their early 20s, the picture provided by most is inadequate precisely because of the age limit. Teenage fathers, unlike teenage mothers, actually represent a very small population group. National birth statistics show that in 1986, only three percent of all fathers were teenagers when their first child was born.<sup>4</sup> Because the fathers of babies born to women under the age of 20 are usually older than the mothers, a broader perspective on the male contribution to teenage pregnancy can be obtained by looking at all men who father children born to adolescent women, regardless of their age at the time of the child's birth. However, there are no national data available on the number or the characteristics of such men.

In an earlier analysis of the data used in the present study, we found that 12 percent of resident recorded live births in Bal-

timore in 1983 were to parents who were both under the age of 20. A further 14 percent were to teenage mothers and were fathered by men over the age of 20; an additional two percent were to women over the age of 20 whose male partners were still in their teens. Altogether, in 28 percent of births, one or the other of the partners was an adolescent.<sup>5</sup>

The present report focuses on a subgroup of the Baltimore sample of birth registrations: all men who, in 1983, fathered children by mothers under the age of 18. The study focuses on younger teenage mothers because they are physically, cognitively and emotionally less mature, thus placing themselves and their babies at higher medical and social risk.<sup>6</sup>

Although no direct information was available about the financial situation of the fathers in question, it seems plausible, based upon what we know of their educational level, employment history and living arrangements that they were similar to the mother's circumstances. On the basis of the earlier study, we know that the mothers lived predominantly in very poor inner-city neighborhoods. There were 6.3 members in each black household, on average, and 5.0 in each white household. Seventy-six percent of the families in which the teenage mothers were living at three months after their child's birth were headed by women. Average family incomes were extremely low: Thirteen percent earned less than \$5,000 a year, 49 percent, under \$10,000, and only 14 percent, \$20,000 or more, with no significant racial differences in this distribution. Ninety percent of the teenage mothers received

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**Table 1. Percentage distribution of fathers, by mother's race and father's age at child's birth, according to mother's age at child's birth and to birth order, Baltimore, 1983**

| Mother's race and father's age | Mother's age     |             |              |              |              | 2nd-order births | All ages     |
|--------------------------------|------------------|-------------|--------------|--------------|--------------|------------------|--------------|
|                                | 1st-order births |             |              |              |              |                  |              |
|                                | Total            | <15         | 15           | 16           | 17           |                  |              |
| <b>All races</b>               | <b>(1,095)</b>   | <b>(96)</b> | <b>(181)</b> | <b>(336)</b> | <b>(482)</b> |                  | <b>(162)</b> |
| ≤15                            | 5                | 17          | 10           | 3            | 2            |                  | 1            |
| 16-17                          | 26               | 42          | 38           | 28           | 16           |                  | 12           |
| 18-19                          | 39               | 27          | 33           | 40           | 43           |                  | 29           |
| ≥20                            | 31               | 15          | 20           | 29           | 41           |                  | 59           |
| <b>Black</b>                   | <b>(900)</b>     | <b>(82)</b> | <b>(152)</b> | <b>(276)</b> | <b>(381)</b> |                  | <b>(132)</b> |
| ≤15                            | 5                | 17          | 9            | 3            | 1            |                  | 1            |
| 16-17                          | 27               | 42          | 40           | 30           | 15           |                  | 12           |
| 18-19                          | 40               | 26          | 33           | 41           | 46           |                  | 29           |
| ≥20                            | 28               | 14          | 18           | 26           | 38           |                  | 58           |
| <b>White</b>                   | <b>(195)</b>     | <b>(14)</b> | <b>(29)</b>  | <b>(61)</b>  | <b>(101)</b> |                  | <b>(30)</b>  |
| ≤15                            | 4                | -           | 10           | 3            | 2            |                  | 0            |
| 16-17                          | 21               | -           | 28           | 23           | 18           |                  | 10           |
| 18-19                          | 31               | -           | 31           | 33           | 29           |                  | 30           |
| ≥20                            | 45               | -           | 31           | 41           | 52           |                  | 60           |
| <b>Total</b>                   | <b>100</b>       | <b>100</b>  | <b>100</b>   | <b>100</b>   | <b>100</b>   |                  | <b>100</b>   |

\*Fewer than 10 cases.

Notes: Percentages may not add to 100 because of rounding. Figures in parentheses are the numbers of fathers.

welfare, and 95 percent obtained Medicaid coverage for themselves or their babies over the course of an 18-month follow-up.<sup>7</sup>

### Methodology

In this study, information about the characteristics of the fathers of children born to young adolescents comes from two different sources: the child's birth certificate, which contains some data on the father's race, age and educational level,<sup>8</sup> and information provided by the teenage mother about the father's situation and his relationships with her and her baby. The latter was collected during interviews carried out at three months after delivery and at 15-18 months postpartum. The fact that the second type of information on the father was derived from the perceptions and recollection of the mother means that it was both subjective in quality and subject to reporting error. The completeness of the mother's responses to questions was gen-

erally high but did vary somewhat, depending on how long and how well she had known the father of her child. However, since the interviewers found the subjects to be remarkably forthright, we have concluded that their reporting was reliable and, thus, that the study offers valuable new information about urban fathers of children born to young adolescents.

From the 1,312 adolescents under age 18 who gave birth in Baltimore in 1983, the researchers selected a disproportionate random sample of 529 women. The sample was designed to provide a large enough basis for statistical analysis in each age, race and parity group.<sup>†</sup> The teenage mothers were informed by mail that they had been chosen for the study. They were asked to return an enclosed, stamped postcard if they did not wish to participate.

Of the original 331 black adolescents selected, 25 (eight percent) refused to participate; among the 198 whites, 35 (18 percent) declined an interview. An additional 26 teenage mothers could not be located, and 26 more refused informed consent at the time of the first home visit. An additional 22 mothers had moved out of the city, four had put their children up for adoption and the children of two had died. Thus, 389 mothers (74 percent of the original sample) agreed to the initial interview that was scheduled three months after delivery. Of these teenagers, 272 were black and 117 were white. At 15-18 months after birth, a further 26 (seven percent) declined participation. The remaining 363 were reinterviewed, but only 355 had sufficient

information about the father for inclusion in most analyses.

To determine whether losses from original sample were likely to bias the results of the study, we used birth certificate information to compare the final respondents and the nonrespondents for characteristics as age at birth, educational timing of onset of prenatal care, medical assistance status, pregnancy complications, preterm delivery, low birth weight and Apgar score. No significant differences between the two groups were found; the final sample is believed to be representative of all births among Baltimore residents under the age of 18 in 1983.

However, it should be emphasized that the fathers covered by the study were completely representative of all male respondents responsible for teenage pregnancies in Baltimore, since we know from our earlier analysis that 46 percent of teenagers younger than 18 who became pregnant in 1983 terminated the pregnancy by an abortion, and that a small, unknown proportion had miscarriages.<sup>9</sup>

During the initial interview, trained interviewers obtained a large amount of information about the young parents, their children and about each parent's living arrangements. The interviews were reviewed by a field supervisor for consistency and completeness, and a random percent of the sample were reinterviewed by telephone to check for the reliability of the responses. Chi-square analysis, t-test and one-way analysis of variance were used to assess the statistical significance of the findings in terms of the father's age and the mother's race and parity.

### The Fathers and Their Role

Table 1 shows a percentage distribution of the fathers by age, according to mother's age and race. So that the analysis of the father's age may be as complete as possible, it is based on information obtained from the birth certificates of babies born to all Baltimore girls 17 and under in 1983 that had no missing data (N=1,095).

The fathers of babies born to black teenagers having their first child ranged in age from 14 to 50 years, but almost three-quarters (72 percent) were under 20. The range of the partners of white mothers from 15 to 39 years, and 56 percent were 20 or younger. For second-order or higher order births, the father's ages were older (59 percent were 20 and older), as might be expected. On average, the fathers of infants born to white teenage women were four years older than were the mothers, and those of infants born to black teenagers were

<sup>8</sup>The birth certificates contained complete information on the mother's age, race and marital status, but lacked the father's age in three percent of black births and five percent of white births. The father's educational status was missing in 15 percent of the black, and 16 percent of the white, birth registrations.

<sup>†</sup>The disproportionate, stratified random sampling that was necessary to adjust for the existence of small numbers in some subgroups required the application of weights to achieve sample distributions paralleling those of the original population. All white mothers under the age of 16 had to be included, whereas only one in five black mothers aged 17 were required for analysis. The number selected in each subgroup was determined on the basis of births to girls 17 and younger in 1981.

mothers were 2-3 years older (not shown).

Table 2, which is based only on births to the teenage mothers who were interviewed 15-18 months after delivery, describes the educational level and work status of the fathers at the time of the interview. There were significant racial differences in these characteristics: Fifty-three percent of the partners of white mothers, compared with 11 percent of those of black mothers, had had nine or fewer years of schooling; only 16 percent of partners of white mothers (compared with 51 percent of those of blacks) had finished high school.

At the time of the second interview, nine percent of fathers were still in school, 54 percent were working and no longer in school, and 36 percent were neither in school nor working. School attendance was higher among the partners of black mothers than among those of white mothers (12 percent compared with three percent), and a higher proportion of the partners of white mothers than of black mothers were in the labor force (74 percent compared with 46 percent). There were marked racial differences in the proportion of fathers who were neither in school nor working. Among partners over the age of 19 at the time of the child's birth, white mothers reported that 19 percent were neither working nor in school at the time of the interview; the comparable proportion among black mothers was 40 percent.

Table 3 presents data on certain aspects of the father's relationship with the mother of his child. According to the accounts given by the mothers, most of the fathers had been known to them for some time before the conception. Only nine percent of couples had known each other for less than six months, and more than half had been acquainted for more than two years before conception. There was very little variation by race in the length of the prior relationship. However, there were significant differences in the type of the current relationship. About one-third of the fathers of infants born to white mothers, compared with almost none of the fathers of infants born to black mothers, had been married to their child's mother, and higher proportions of the partners of white mothers than of black mothers had lived with the mother at some point without being married.

At the time of the interview, the young mothers not married to the father of their child were asked whether they thought it likely that they would marry him. Almost identically high proportions for both races, about six in 10, thought it unlikely. Similarly, three-quarters of both black and white teenage mothers not living with or

Table 2. Percentage distribution of fathers, by educational achievement and school/work status, according to mother's race and to father's age at child's birth

| Education and school/work status | Mother's race and father's age |                  |                 |               |                  |               |                 |               |     |
|----------------------------------|--------------------------------|------------------|-----------------|---------------|------------------|---------------|-----------------|---------------|-----|
|                                  | All<br>(N=355)                 | White<br>(N=103) |                 |               | Black<br>(N=252) |               |                 | >19<br>(N=77) |     |
|                                  |                                | <18<br>(N=17)    | 18-19<br>(N=38) | >19<br>(N=48) | Total            | <18<br>(N=78) | 18-19<br>(N=97) |               |     |
| Highest completed grade†         |                                |                  |                 |               |                  |               |                 |               |     |
| 9                                | 24                             | 53               | 55              | 58            | 46               | 11**          | 22              | 6             | 8   |
| 10-11                            | 37                             | 31               | 37              | 34            | 28               | 40            | 49              | 34            | 37  |
| 12                               | 36                             | 16               | 8               | 8             | 24               | 45            | 29              | 54            | 49  |
| Postsecondary                    | 3                              | 0                | 0               | 0             | 0                | 4             | 0               | 5             | 6   |
| Schoolwork status‡               |                                |                  |                 |               |                  |               |                 |               |     |
| In school and working            | 1                              | 1*               | 0               | 3             | 0                | 1***          | 1               | 2             | 0   |
| In school only                   | 8                              | 2                | 14              | 0             | 0                | 11            | 28              | 5             | 3   |
| Working only                     | 54                             | 74               | 51              | 73            | 81               | 46            | 26              | 51            | 57  |
| Neither in school nor working    | 36                             | 23*              | 35              | 24            | 19               | 42            | 44              | 41            | 40  |
| Total                            | 100                            | 100              | 100             | 100           | 100              | 100           | 100             | 100           | 100 |

\*For whites, age differences were significant at  $p < 0.05$ .

\*\*For blacks, age differences were significant at  $p < 0.01$ .

\*\*\*For blacks, age differences were significant at  $p < 0.001$ .

†For this category, racial differences were significant at  $p < 0.001$ .

married to the father said they thought it unlikely that they would ever live together.

Overall, 20 percent of the young mothers reported that the father of their baby had a child (or children) by another woman or by other women. The difference between the races was statistically significant for fathers over the age of 19—29 percent of the partners of white mothers and 36 percent of those of black mothers had other children ( $p < 0.001$ ).

The teenage mothers were also asked detailed questions about whether they had

planned to have the child they gave birth to in 1983, and whether they had been practicing contraception at the time pregnancy occurred (Table 4—page 162). Nine out of 10 births had been unplanned (75 percent of those to white mothers and 95 percent of those to black mothers). Overall, fewer than half of the couples (45 percent) had discussed the possibility of pregnancy, although among couples closer in age (that is, where the fathers were younger), slightly higher proportions had done so. If the couple had discussed the

Table 3. Percentage of fathers, by relationship with child's mother, according to mother's race and to father's age at child's birth

| Relationship                       | Mother's race and father's age |       |     |       |       |     |       |     |
|------------------------------------|--------------------------------|-------|-----|-------|-------|-----|-------|-----|
|                                    | All                            | White |     |       | Black |     |       | >19 |
|                                    |                                | Total | <18 | 18-19 | Total | <18 | 18-19 |     |
| Knew mother before conception for: |                                |       |     |       |       |     |       |     |
| <6 months                          | 9                              | 8     | 0   | 11    | 8     | 11  | 10    | 7   |
| 6-11 months                        | 8                              | 13    | 6   | 8     | 21    | 6   | 7     | 7   |
| 12-23 months                       | 24                             | 20    | 29  | 15    | 23    | 26  | 31    | 23  |
| 24 months                          | 58                             | 58    | 65  | 66    | 49    | 57  | 57    | 57  |
| Total                              | 100                            | 100   | 100 | 100   | 100   | 100 | 100   | 100 |
| Married to mother                  |                                |       |     |       |       |     |       |     |
| Before learning of pregnancy***    | 5                              | 14    | 19  | 8     | 17    |     |       |     |
| At child's birth***                | 9                              | 27    | 29  | 24    | 37    |     |       |     |
| 3 months after birth***            | 8                              | 22    | 27  | 16    |       |     |       |     |
| 15 months after birth***           | 8                              | 23    | 23  | 18    |       |     |       |     |
| Living with child's mother:        |                                |       |     |       |       |     |       |     |
| At birth†                          | 7                              | 12    | 12  | 1     |       |     |       |     |
| 3 months after birth               | 9                              | 12    | 5   | 13    |       |     |       |     |
| 15 months after birth              | 8                              | 11    | 6   | 14    |       |     |       |     |

†For this group, racial differences were significant at  $p < 0.05$ .

\*\*\*For this group, racial differences were significant at  $p < 0.001$ .

**Table 4. Percentages of mothers' responses to questions concerning their pregnancy and concerning contraceptive practices, according to mother's race and to father's age at child's birth**

| Responses   | Mother's race and father's age |       |     |       |     |       |     |       |     |
|---|--------------------------------|-------|-----|-------|-----|-------|-----|-------|-----|
|   | All                            | White |     |       |     | Black |     |       |     |
|   |                                | Total | <18 | 18-19 | >19 | Total | <18 | 18-19 | >19 |
| Pregnancy unplanned***                            | 89                             | 75    | 66  | 78    | 75  | 95    | 96  | 94    | 96  |
| Couple discussed possibility of pregnancy†        | 45                             | 56    | 63  | 55    | 54  | 41†   | 52  | 30    | 45  |
| Pregnancy discussed before conception—desired by: |                                |       |     |       |     |       |     |       |     |
| Father‡   | 55                             | 61    | 52  | 71    | 56  | 52†   | 34  | 64    | 59  |
| Mother***   | 39                             | 64    | 51  | 60    | 72  | 25    | 13  | 29    | 33  |
| Pregnancy desired by mother**                     | 21                             | 41    | 30  | 45    | 42  | 13    | 11  | 12    | 15  |
| Contraceptives used at time of conception**       | 13                             | 6     | 0   | 2     | 10  | 16    | 10  | 18    | 18  |
| Condom/withdrawal used before conception          | 26                             | 33    | 19  | 31    | 40  | 24    | 20  | 27    | 22  |

\*For this group, racial differences were significant at  $p < 0.05$ .

\*\*For this group, racial differences were significant at  $p < 0.01$ .

\*\*\*For this group, racial differences were significant at  $p < 0.001$ .

†For blacks, age differences were significant at  $p < 0.05$ .

‡Denominator is those who discussed the possibility of pregnancy.

likelihood of pregnancy, the fathers were more likely than the mothers to have desired pregnancy (especially the older partners of black mothers), and white mothers were considerably more likely than their black counterparts to say they had wanted the pregnancy. However, only one in five of all the teenage mothers said they had wanted the pregnancy.

Even though most of the pregnancies were unplanned, very few couples had been using a contraceptive method at the time of conception: Six percent of white mothers and 16 percent of black mothers reported doing so. Moreover, only one in four couples had ever at any time in the relationship used a form of birth control dependent on the male partner (i.e., the condom or withdrawal).

Three-quarters of the fathers had been told of the pregnancy within one week of its diagnosis, and a further 10 percent, within one month. Less than one percent were never told. Two-thirds of the fathers not living with the teenage mothers were said to have given assistance of some kind during the pregnancy.

Ninety percent of fathers who were neither married to nor living with the child's mother had spent some time with the child during the 15 months since the birth. The

proportion was statistically significant by race of the mother, with 92 percent of black mothers and 83 percent of white mothers reporting that the father had spent time with the child ( $p < 0.05$ ). There was very little variation by father's age. Most of these contacts took place in the mother's home. However, only 28 percent of all fathers shared equally with the mothers in making childrearing decisions, and only two percent were the primary decision-makers.

Data pertaining to the father's relationship with his child if he was neither married to nor living with the mother at the time of the second interview are shown in Table 5. This group represents 68 percent of the 363 fathers whose partners were reinterviewed at 15-18 months.

Over half of noncohabiting fathers visited their child daily during the first three months after birth, and 27 percent visited weekly. Fourteen percent saw the child less frequently, and seven percent had no contact during that period. (There were no significant differences in these statistics by the father's age or race). By the time one year had passed, however, the frequency of the father's contact with his child had diminished further. Less than one-quarter now had daily contact, a third saw the

child weekly, one-quarter visited only a month and 16 percent had no contact whatsoever.

One-half of the mothers complained receiving too little help from the father raising the child. Black mothers were more likely than white mothers to report that the father helped too little (55 percent compared with 33 percent— $p < 0.01$ ). Among white mothers, fathers aged 20 or older were reported as significantly more helpful than the younger ones ( $p < 0.01$ ). About six in 10 young mothers said the father contributed too little financial support, and black mothers were significantly more likely to make this complaint than were white mothers (65 percent compared with 46 percent— $p < 0.01$ ).

Help with child care and financial support were also examined among couples who were married or living together. In this small group, only 15 percent of cohabiting mothers (13 percent of blacks and 18 percent of whites) and only 20 percent of those who were married (who were primarily whites) reported that their partners did not help enough with child care. As might be expected, these levels of dissatisfaction are much lower than those found among teenage mothers living apart from the fathers, and the contrast is particularly pronounced among blacks ( $p < 0.01$ ).

Similarly, teenage mothers who cohabited with the father of their child were much less likely than those living apart to complain of inadequate financial support. Overall, only 16 percent of cohabiting mothers, compared with 61 percent of those living apart, said that they received too little financial help. Among black mothers, 20 percent of those who cohabited, compared with 65 percent of those living separately, reported insufficient financial support ( $p < 0.001$ ); among white mothers the proportions were eight percent and 20 percent, respectively ( $p < 0.05$ ).

By the time the child was about 18 months old, only 16 percent of all fathers were married to or living with the mother. Most of these couples lived in their current household, although those in which the father was 20 and older were more likely to do so than those in which he was younger than 20. Whites were more likely to have their own household than were blacks. The most common arrangement otherwise was to be living with one or other set of the child's grandparents.

Among the 84 percent of fathers living separately from their children, 60 percent lived with a parent, six percent lived with a woman who was not the mother, six percent were in jail (11 percent of black

Table 5. Percentage distribution of fathers not married to or living with the child's mother, by contact with child, according to mother's race and to father's age at child's birth

| Father's contact with child             | Mother's race and father's age |                 |                 |               |            |                  |                 |               |            |
|---|--------------------------------|-----------------|-----------------|---------------|------------|------------------|-----------------|---------------|------------|
|   | All<br>(N=321)                 | White<br>(N=76) |                 |               |            | Black<br>(N=245) |                 |               |            |
|   |                                | <18<br>(N=13)   | 18-19<br>(N=29) | >19<br>(N=34) | Total      | <18<br>(N=78)    | 18-19<br>(N=81) | >19<br>(N=76) | Total      |
| <b>In first three months saw child:</b> |                                |                 |                 |               |            |                  |                 |               |            |
| Daily                                   | 52                             | 53              | 38              | 68            | 46         | 51               | 58              | 50            | 47         |
| Weekly                                  | 27                             | 26              | 26              | 13            | 37         | 28               | 27              | 27            | 29         |
| Monthly                                 | 14                             | 14              | 18              | 10            | 16         | 13               | 11              | 17            | 13         |
| Never                                   | 7                              | 7               | 18              | 9             | 0          | 7                | 5               | 8             | 11         |
| <b>At 15-18 months saw child:</b>       |                                |                 |                 |               |            |                  |                 |               |            |
| Daily                                   | 24                             | 30              | 29              | 31            | 28         | 23               | 15              | 20            | 34         |
| Weekly                                  | 36                             | 33              | 32              | 32            | 35         | 36               | 44              | 34            | 32         |
| Monthly                                 | 24                             | 17              | 19              | 22            | 12         | 26               | 29              | 29            | 21         |
| Never                                   | 16                             | 20              | 19              | 16            | 25         | 15               | 13              | 17            | 1          |
| <b>Total</b>                            | <b>100</b>                     | <b>100</b>      | <b>100</b>      | <b>100</b>    | <b>100</b> | <b>100</b>       | <b>100</b>      | <b>100</b>    | <b>100</b> |

over 19) and four percent were in the armed forces. In 10 percent of cases (21 percent if the father was white and over 19), the mother did not know the whereabouts of her child's father.

### Conclusions

This study looks at a large sample of the fathers of children born to young adolescent women. The approach is unique because it is not limited to the adolescent or young adult father but investigates the characteristics of all men, regardless of age, who have fathered children by very young women. The results, as might be expected, reveal some similarities with those of earlier studies that concentrated on adolescent or young adult fathers, but also show some interesting differences, probably because of the wider age-range studied.

It seems surprising that so few fathers were under the age of 16, since sexual activity has been shown to start at a very early age among poor urban populations.<sup>9</sup> Yet these findings are similar to those based on the National Longitudinal Survey of Labor Market Experience of Youth.<sup>10</sup> The finding raises the question of whether young males may be infertile or subfecund during the early years following puberty.

The considerably older age of some of the fathers raises possible questions about sexual abuse, an issue that this study did not address directly. However, anecdotal information suggests that sexual abuse is not infrequent in this and other similarly disadvantaged populations. In our own clinic work in Baltimore, we have encountered several young adolescents who bore

children fathered by much older men—their own fathers or their mothers' boy-friends, for example.

The results of the study confirm the findings of a large number of other studies,<sup>11</sup> in that the Baltimore fathers had, in general, low levels of schooling (especially among the partners of white mothers) and poor employment histories. Four in 10 fathers of children born to black mothers and two in 10 fathers of children born to white mothers were unemployed; even among those fathers over the age of 19, many had never worked. The obvious implication of these findings is that, even if they had wished to do so, most of the fathers in the study did not have the necessary skills to provide a stable, independent home for their families. In addition, some research suggests that young men in job-training programs have lower fertility than those not exposed to such opportunities.<sup>12</sup>

Only one in six children born to young teenagers in Baltimore lived with the father, while a surprisingly large number of the fathers lived with their own parents. Moreover, one father in five had at least one other child by a different woman. In addition, seven percent were in jail (and several others had served prison terms). Research by other investigators also found criminal records to be common among the fathers of babies born to adolescent women.<sup>13</sup>

Despite the fact that such a large number of fathers were living in conditions not particularly conducive to stability or control over their own lives, many of them

maintained some kind of a relationship with their children (especially soon after the birth) and contributed food, diapers, clothing, some child care and some financial assistance. The fact that six out of 10 teenage mothers considered the father's contributions to the child's upbringing inadequate is not surprising in light of the men's probably poor financial situation.

If the aim of social programs is to strengthen family relationships and improve the conditions in which young children are raised, certain services deemed essential for young women are no less important for young men. These include programs to encourage the prevention of unwanted pregnancy (e.g., sex education in schools, courses on the responsibilities of parenthood and family planning services) and comprehensive services to support these parents and their babies. Several successful models already exist for such programs: School-based programs in St. Paul and Baltimore<sup>14</sup> have proved successful in reducing pregnancy rates among the student body and in encouraging high school students to delay sexual activity. There are successful examples of comprehensive programs for pregnant teenagers that include services for fathers,<sup>15</sup> and a number of family support centers and programs around the country are beginning to meet the needs of very young parents.<sup>16</sup>

Despite these initiatives, such programs, although important and effective in preventing pregnancies and improving health and developmental outcomes when pregnancy occurs, are tantamount to band-aids. The study findings presented here suggest that the basic problem of teenage pregnancy is poverty. America's underclass, as has so often been pointed out, consists largely of female-headed, single-parent families.<sup>17</sup> Yet, in comparison with most Western, industrialized nations, the United States lacks the kind of broad social policies and programs that are essential if the country is to address the conditions that perpetuate the existence and growth of such families. These much-needed programs would include adequate support to poor families; school programs that train and enable young people to join today's modernized, nonindustrial labor force; and job-training programs for school dropouts that would enable them to more easily support their own families.

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(Continued from page 163)

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# Sexual Activity, Condom Use and AIDS Awareness Among Adolescent Males

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## Summary

New data from the 1988 National Survey of Adolescent Males indicate that 60 percent of never-married young men ages 15-19 are sexually active. Among 17-19-year-old males living in metropolitan areas, the rate of sexual activity reported in 1988 was 15 percent higher than that reported in 1979. This increase encompasses a rise of 23 percent among black males and 13 percent among nonblack males.

Slightly more than half of the sexually active males in the 1988 survey reported that they had used a condom the last time they had had intercourse. Among both black and nonblack youths aged 17-19 living in metropolitan areas, rates of reported condom use at last intercourse more than doubled between 1979 and 1988. Conversely, reported reliance on ineffective methods of contraception or use of no method at last intercourse was 60 percent lower. When first intercourse occurred within two years of the 1988 survey, the odds of using a condom were increased by 110 percent over the odds when intercourse occurred between 1975 and 1982, after controlling for the effects of age at first intercourse, race and ethnicity.

The young men in the sample were very knowledgeable about how the human immunodeficiency virus is transmitted, and over three-quarters of the sample did not

**The levels of condom use reported in 1988 were surprisingly high compared with 1979 levels. Among 17-19-year-olds living in metropolitan areas, condom use at last intercourse more than doubled—from 21 percent to 58 percent.**

dismiss the disease as uncommon, nor did they think that using condoms to prevent the spread of AIDS was too much trouble. The rates of condom use were significantly lower than average, however, among young men who had ever used drugs intravenously or whose partners had done so, young men who had ever had sex with a prostitute and those who had had five sexual partners or more in the past year.

## Background

By the end of May 1989, a total of 97,193 individuals in the United States were reported to have AIDS, and between 1.0 and 1.5 million people were estimated to be infected with the human immunodeficiency virus (HIV).<sup>1</sup> To curb the spread of the deadly infection, Americans have been advised to be selective and exclusive about their sexual partners and to use condoms for protection during sex; drug users have been cautioned to avoid sharing syringes.

Teenagers may be an especially vulnerable population because in the past they have had high reported rates of unprotected sexual intercourse and experimentation with drugs. The number of AIDS cases diagnosed among teenagers is currently small, however—less than one percent of all cases.<sup>2</sup> Similarly, reported HIV seroprevalence rates in this age-group are fairly low—one per 1,000 among 17-19-year-old military recruits and two per 1,000 among college students.<sup>3</sup>

AIDS prevalence rates are believed to be much higher among individuals aged 20-29, since 20 percent of all persons diagnosed with AIDS by September 1988 were in their 20s.<sup>4</sup> Because the average length of

time between infection and the onset of AIDS or related symptoms is 8-10 years, many of these infections are believed to have occurred during the person's teenage years. Moreover, rates of other sexually transmitted diseases are higher among sexually active teenagers than they are among adults.<sup>5</sup> Thus, even though the incidence of diagnosed AIDS is low among teenagers, the teenage population has been identified by the U.S. Surgeon General as especially vulnerable.<sup>6</sup> Because teenagers are just beginning to establish their patterns of sexual behavior, they represent an especially appropriate group to target for preventive efforts.

Among some groups, behavior may be changing as a result of the AIDS epidemic. For example, among homosexual and bisexual males, the number of sexual partners and the frequency of anal intercourse appear to have decreased since 1983, and the use of condoms and spermicides appears to have increased. Among intravenous drug users, the sharing of needles appears to have decreased, and needle sterilization has increased.<sup>7</sup>

The evidence is less clear about what has happened to high-risk behaviors among heterosexuals, especially teenagers. Several studies have found that most teenagers know that AIDS can be contracted through sexual intercourse and intravenous drug use, although they may also incorrectly believe that it can be contracted from giving blood, being bitten by a mosquito or using a public toilet.<sup>8</sup> A study in San Francisco reports no changes between 1984 and 1986 in teenagers' use of condoms in the past month or in intended use

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of condoms.<sup>9</sup> Other more recent research in Massachusetts indicates that teenagers in two statewide samples of 16-19-year-olds used drugs less and condoms more in 1988 than in 1986; rates of sexual activity were also somewhat higher in 1988.<sup>10</sup> Studies showing that the general population, as well as teenagers, have changed their behavior as a result of AIDS<sup>11</sup> are supported by reports that condom sales increased between 1986 and 1987.<sup>12</sup>

All of these indicators suggest that the sexual and contraceptive behavior of U.S. teenagers may be changing as concern about AIDS increases. Using new data on current levels of sexual activity and condom use collected in the 1988 National Survey of Adolescent Males (NSAM), we examine current sexual behavior and condom use among young males and compare the results with data from 1979.

The NSAM, conducted by the Institute for Survey Research at Temple University, utilized an area probability sampling frame based on 1980 census data to draw a sample representative of the noninstitutionalized,<sup>\*</sup> never-married male population aged 15-19 and living in the contiguous United States. (The sample was stratified to overrepresent black and Hispanic respondents.) In-person interviews lasting about one hour were completed between April and November 1988 with 74 percent of the sample—676 young black men, 386 Hispanic men, 755 whites and 63 respondents of other racial and ethnic groups—for a total of 1,880 interviews.<sup>†</sup> A short self-administered questionnaire was also completed at the end of the interview. The percentages used throughout this article were calculated using weighted data.<sup>‡</sup>

### Sexual Activity

In 1988, 60 percent of young men ages 15-19 responded affirmatively to a question asking whether they had "ever had sexual intercourse with a girl—sometimes . . . called 'making love,' 'having sex,' or 'going all the way?'" Table 1 shows the distribution of responses by age and racial or ethnic group. Levels of sexual activity increased significantly at each successive year of age. While only one-third of the 15-year-old males had experienced sexual intercourse, one-half of 16-year-olds and close to two-thirds of 17-year-olds were sexually experienced. At age 19, 86 percent of the young men in the sample reported that they had had sexual intercourse.

Levels of sexual activity also varied significantly by racial and ethnic group. While 81 percent of black men ages 15-19 re-

ported having had sexual intercourse, the proportions were lower among Hispanics (60 percent) and whites (57 percent). Among the youngest age-groups, the differential rates of sexual activity by race were even more marked. Whereas over two-thirds of black 15-year-olds reported that they had had intercourse, only one-third of Hispanics and one-quarter of whites of the same age were sexually experienced. In every age-group except the 19-year-olds, rates of sexual activity varied significantly by race or ethnicity.

The high rates of sexual activity reported by adolescent males in other surveys have led some analysts to hypothesize that young men may overreport their sexual activity.<sup>13</sup> To assess the reliability of our data, we used two different approaches to measuring rates of sexual experience. The interviewers posed the question about sexual activity midway through the interview. In addition, the self-administered battery of questions completed by the respondents at the end of the interview posed the question again in a different format: Young men were asked if they had ever engaged in a series of increasingly intimate acts with a girl. Embedded in this series were two questions about vaginal penetration with and without ejaculation and with or without a condom on the last occasion this happened. The consistency of responses to the self-administered and the interviewer-administered questions was very high (87 percent, with a kappa statistic of 0.802).<sup>§</sup> The data also appear to have external validity. In 1966, a national Planned Parenthood poll found that 35 percent of 15-year-old males, 49 percent of 16-year-olds and 61 percent of 17-year-olds had experienced sexual intercourse.<sup>14</sup> These proportions are remarkably similar to the NSAM findings.

Trend information about the sexual behavior of adolescent males is rare. The NSAM was designed to remedy this problem by replicating items from one of the few other national surveys of teenage male sexual behavior, the 1979 National Survey of Young Men.<sup>15</sup> The 1979 data provide benchmark information about sexual activity and contraceptive use among young men that we can use to assess whether changes have occurred over time in these behaviors.

Comparisons of data from different surveys can be problematic, because observed differences may be the result of survey design rather than of actual changes in behavior.<sup>16</sup> Some of the potential design differences between the NSAM and the 1979 National Survey of Young Men have

Table 1. Percentages of never-married males aged 15-19 who have had sexual intercourse, by age, according to race/ethnicity United States, 1988

| Age   | All races (N=1,880) | Black (N=676) | White (N=752) | % of sample (N=38) |
|-------|---------------------|---------------|---------------|--------------------|
| 15-19 | 60.4                | 80.5          | 56.0          | 51                 |
| 15    | 32.6                | 68.6          | 25.6          | 3                  |
| 16    | 49.9                | 70.1          | 46.7          | 4                  |
| 17    | 65.6                | 89.6          | 59.1          | 8                  |
| 18    | 71.6                | 82.5          | 71.4          | 9                  |
| 19    | 85.7                | 95.0          | 84.5          | 11                 |

Notes: In Tables 1, 3 and 5, "All races" includes blacks, whites, Hispanics and others. For each age except years, racial differences were significant at  $p < 0.1$  for the "All races" group, age differences were significant at  $p < 0.001$  (chi-square).

been controlled by having the same organization and the same director that implemented the 1979 survey implemented the NSAM. However, the sample for the earlier study included only metropolitan areas, and the young men interviewed were ages 17-21. Therefore, comparisons between 1988 and 1979 can only be made for 17-19-year-old males living in metropolitan areas and are restricted to the categories of black and nonblack, the only racial groupings in the public use tape for the 1979 survey. A further difference between the two surveys is that the question about "ever having had sexual intercourse with a girl" was asked in a self-administered section of the 1979 survey, whereas it was asked by an interviewer in 1988. Because of the potential effects of these and possibly other design differences, comparisons between 1979 and 1988 data should be interpreted cautiously.

\*Young men in college dormitories, military barracks, prisons or other group quarters were not part of the sampling frame.

†Of the 23,825 households identified for screening, 21,078 were occupied housing units. The screening was 94 percent. Eligible households numbered 18,625. In six percent of these, parents refused to allow interviews with young men under age 19; in 13 percent, eligible respondent refused to participate in the survey; and in six percent, the interview was not completed by the end of the survey's field period.

‡Weights were calculated as the product of the sampling weight, a screening nonresponse rate, an interview nonresponse rate, and a poststratification adjustment that aligned the sample distribution with the March 1987 Current Population Survey.

§Consistency of responses was compared across following three categories: no sexual experience, condom use at last intercourse and no condom use at last intercourse. Answers to the self-administered questions about coitus with and without ejaculation combined to compare with answers to the interviewer question about ever having had sexual intercourse.

**Table 2. Percentages of never-married metropolitan-area males aged 17-19 who have had sexual intercourse, by age, according to race, 1979 and 1988**

| Age   | 1979           |                  |                     | 1988           |                  |                     |
|-------|----------------|------------------|---------------------|----------------|------------------|---------------------|
|       | All<br>(N=608) | Black<br>(N=257) | Nonblack<br>(N=352) | All<br>(N=742) | Black<br>(N=288) | Nonblack<br>(N=452) |
| 17-19 | 65.7           | 71.1             | 64.5                | 75.5*          | 87.7*            | 73.0†               |
| 17    | 55.7           | 60.3             | 54.5                | 71.9*          | 89.7*            | 68.0‡               |
| 18    | 66.0           | 79.8             | 63.6                | 70.6           | 80.1             | 68.7                |
| 19    | 77.5           | 79.9             | 77.1                | 87.8‡          | 87.8*            | 86.0                |

\*1979 levels of sexual activity differed significantly from 1988 levels at  $p < 0.001$  (chi-square).

†1979 levels of sexual activity differed significantly from 1988 levels at  $p < 0.01$  (chi-square).

‡1979 levels of sexual activity differed significantly from 1988 levels at  $p < 0.05$  (chi-square).

Note: In Tables 2, 4 and 6, the "Black" category includes Hispanic and non-Hispanic blacks, while the "Nonblack" category includes whites, nonblack Hispanics and others.

The comparative data in Table 2 indicate that the proportion of young men who had ever had intercourse was significantly higher in 1988 than in 1979. While almost two-thirds of the 17-19-year-old young men living in metropolitan areas were sexually experienced in 1979, three-quarters of those questioned in 1988 reported that they had had intercourse. The overall proportions of those sexually experienced

were significantly higher in 1988 among both blacks and nonblacks.

These data suggest that the proportion of young males sexually active at younger ages may have risen in the last nine years in spite of the conservative mood of the nation and the specter of AIDS. Between 1979 and 1982, the sexual activity rates of young women appeared to have stabilized after having risen sharply in the 1970s.<sup>17</sup> However, preliminary data from the 1988 National Survey of Family Growth indicate that the proportion of sexually experienced white females increased between 1982 and 1988, while the proportion of sexually experienced black females remained stable.<sup>18</sup>

#### Condom Use

Young men who reported that they had experienced sexual intercourse at least once were asked whether they had used any method of contraception the last time they had had intercourse. A previous question had defined a contraceptive method as "something to prevent pregnancy or sexually transmitted diseases." The respondents were first asked about the method they had used, and were then asked whether their partner had used a contraceptive method.

As shown in Table 3, responses for this analysis were classified into the following mutually exclusive categories: used a condom, used an effective female method without a condom and used nothing or an ineffective method. Respondents in the first category could have used either a condom alone or a condom in combination with another method of contraception. Indeed, 14 percent of the sexually active males reported using condoms in combination with other female methods. Respondents placed in the second category reported that their partners had used oral contraceptives, the diaphragm, an IUD, the sponge, foam, jelly or supposito-

ries, either alone or in combination with another method. The third category was composed of respondents who reported that they or their partner had used withdrawal, douching, rhythm or calendar methods or that they had used no contraceptive method.

In 1988, 57 percent of the young sexually active males in the sample reported that they had used a condom the last time they had had intercourse; 20 percent said that their partner had used an effective female method without a condom; and 23 percent reported use of no method or an ineffective method. There were significant differences between black, Hispanic and white respondents in their reported use of contraceptive methods. Black respondents had higher rates of condom use (66 percent) than white (54 percent) or Hispanic (53 percent) respondents. Compared with white respondents, both blacks and Hispanics had lower rates of use of effective female methods without condoms (22 percent, 15 percent and 16 percent, respectively). Hispanic young men reported higher rates of ineffective or no method use (31 percent) compared with either black or white young men (20 percent and 23 percent, respectively).

There were also significant differences in method use by age. The incidence of condom use decreased slightly with age, from 60-62 percent among 15- and 16-year-olds to 54-55 percent among 18- and 19-year-olds. The partner's use of an effective female method without condoms increased dramatically by age, from 5-8 percent among 15- and 16-year-olds to 29 percent among 18-year-olds and 23 percent among 19-year-olds. The use of ineffective methods or no contraceptive method decreased from 36 percent among 15-year-olds to a low of 18 percent among 18-year-olds, and then increased to 22 percent among 19-year-olds.

The levels of condom use reported in 1988 were surprisingly high compared with 1979 levels. Table 4 presents results from the two samples of a systematic comparison of 17-19-year-olds living in metropolitan areas. It shows that condom use at last intercourse more than doubled—from 21 percent to 58 percent—between 1979 and 1988. Among young, sexually active black men, the proportion increased from 23 percent to 62 percent and among nonblacks, it rose from 21 percent to 57 percent. The pattern of condom use across ages appears to have altered: Whereas in 1979, the use of condoms declined with age, condom use in 1988 remained high for 17-, 18- and 19-year-olds.

**Table 3. Percentages of never-married, sexually active males aged 15-19, by contraceptive method used at last intercourse, according to age and race/ethnicity**

| Age   | All<br>races<br>(N=<br>1,244) | Black<br>(N=<br>540) | White<br>(N=<br>437) | His-<br>panic<br>(N=<br>222) |
|---|-------------------------------|----------------------|----------------------|------------------------------|
| <b>Condoms alone<br/>or with other methods</b>    |                               |                      |                      |                              |
| 15-19   | 56.9                          | 65.5                 | 54.4                 | 53.0                         |
| 15  | 59.5                          | 70.0                 | 50.9                 | 59.6                         |
| 16  | 62.3                          | 63.8                 | 64.4                 | 44.3                         |
| 17  | 57.8                          | 68.4                 | 54.4                 | 64.9                         |
| 18  | 53.5                          | 64.3                 | 50.0                 | 43.3                         |
| 19  | 56.2                          | 60.7                 | 54.8                 | 46.1                         |
| <b>Effective female<br/>method without condom</b> |                               |                      |                      |                              |
| 15-19   | 19.7                          | 14.5                 | 22.2                 | 15.6                         |
| 15  | 4.9                           | 8.6                  | 3.2                  | 6.1                          |
| 16  | 8.2                           | 11.1                 | 7.4                  | 7.2                          |
| 17  | 20.6                          | 15.9                 | 23.7                 | 12.5                         |
| 18  | 26.6                          | 16.3                 | 34.1                 | 14.5                         |
| 19  | 23.0                          | 19.7                 | 22.6                 | 32.3                         |
| <b>Ineffective or no<br/>contraceptive method</b> |                               |                      |                      |                              |
| 15-19   | 23.4                          | 20.0                 | 23.4                 | 31.3                         |
| 15  | 35.6                          | 21.5                 | 45.9                 | 34.3                         |
| 16  | 29.5                          | 25.1                 | 28.1                 | 48.5                         |
| 17  | 21.5                          | 15.7                 | 22.0                 | 22.6                         |
| 18  | 17.9                          | 19.4                 | 15.8                 | 42.2                         |
| 19  | 21.8                          | 19.7                 | 22.8                 | 21.5                         |
| Total   | 100.0                         | 100.0                | 100.0                | 100.0                        |

Notes: In Tables 3, 4, 5 and 6, effective female methods include oral contraceptives, diaphragm, IUD, sponge, foam, jelly or suppository. For the 15-19 category, racial differences were significant at  $p < 0.01$ ; for the "All races" category, age differences were significant at  $p < 0.001$  (chi-square).

The increase in reported use of condoms has been accompanied by a decline in the use of ineffective methods or no methods. Although in 1979, half of the males reported that they had not used a contraceptive method or that they had used a relatively ineffective method at last intercourse, only 21 percent of young men in 1988 did so. The proportion using effective female methods without condoms at last intercourse was only slightly lower in 1988 (22 percent) than it was in 1979 (28 percent).

If respondents are reporting high rates of condom use at last intercourse, what are they reporting about methods used at first intercourse? As the data in Table 5 indicate, the respondents reported a high rate of condom use at first intercourse, too. More than half (55 percent) of the sexually active young men said that they had used a condom the first time they had had sexual intercourse. There were significant differences across the racial and ethnic groups. Although blacks reported higher rates of condom use at last intercourse than did their white and Hispanic counterparts, they reported lower rates of condom use at first intercourse: Forty-four percent of black young men said they had used a condom at first intercourse, compared with 58 percent of whites and 52 percent of Hispanics.

Relatively few respondents who said they had not used a condom reported that their partners had used an effective female method of contraception (seven percent over all) at the time of the respondent's first intercourse; there was little variation across racial or ethnic groups. The proportion who said they had used no method or an ineffective method at first intercourse was relatively high (38 percent). Moreover, the proportions using no method or an ineffective method were significantly higher among young blacks (51 percent) and Hispanics (43 percent) than among whites (34 percent).

There were also significant differences in contraceptive use at first intercourse according to age at first intercourse. The proportion who had used no method or an ineffective method was higher when first intercourse had occurred before the respondent turned 15 (48 percent when first intercourse occurred at ages 12-14) than when first intercourse had occurred at ages 15-17 (32 percent) or ages 18-19 (16 percent). In conjunction with this, the incidence of condom use was higher when first intercourse had occurred at age 15 or older: More than 60 percent of respondents who had had first intercourse at ages 15-19

Table 4. Percentages of never-married, sexually active metropolitan-area males aged 17-19 by contraceptive method used at last intercourse, according to age and race, 1979 and 1988

| Method and age                                  | 1979        |               |                  | 1988        |               |                  |
|---|-------------|---------------|------------------|-------------|---------------|------------------|
|   | All (N=423) | Black (N=196) | Nonblack (N=227) | All (N=563) | Black (N=250) | Nonblack (N=353) |
| <b>Condoms alone or with other methods</b>      |             |               |                  |             |               |                  |
| 17-19   | 21.1        | 23.2          | 20.5             | 57.5        | 62.0          | 56.5             |
| 17  | 25.3        | 17.4          | 27.8             | 56.8        | 64.0          | 54.7             |
| 18  | 22.4        | 36.9          | 19.1             | 57.1        | 59.9          | 56.4             |
| 19  | 16.1        | 15.6          | 16.2             | 58.9        | 60.4          | 58.7             |
| <b>Effective female methods without condoms</b> |             |               |                  |             |               |                  |
| 17-19   | 28.0        | 26.9          | 28.3             | 21.7        | 18.9          | 22.4             |
| 17  | 20.7        | 30.6          | 17.6             | 20.4        | 16.0          | 21.6             |
| 18  | 30.2        | 22.6          | 31.8             | 24.8        | 21.6          | 25.6             |
| 19  | 32.4        | 26.6          | 33.5             | 19.7        | 20.0          | 19.7             |
| <b>Ineffective or no contraceptive method</b>   |             |               |                  |             |               |                  |
| 17-19   | 50.9        | 49.9          | 51.1             | 20.8        | 19.1          | 21.1             |
| 17  | 54.0        | 52.0          | 54.6             | 22.6        | 19.1          | 23.7             |
| 18  | 47.5        | 40.3          | 49.1             | 18.1        | 18.6          | 18.0             |
| 19  | 51.5        | 57.8          | 50.3             | 21.3        | 19.6          | 21.6             |

Note: All differences between 1979 and 1988 by age within racial groups were significant at  $p < 0.01$  (chi-square).

had used a condom compared with 48 percent of respondents who had first experienced sexual intercourse between the ages of 12 and 14.

Table 6 (page 156) contrasts contraceptive use at first intercourse among sexually active metropolitan-area men ages 17-19 in 1979 with those in 1988. It shows that the proportion using a condom at first intercourse more than doubled between the two dates; both blacks and nonblacks exhibited this increase. The reported use of effective female methods of contraception without a condom was low at first intercourse in both 1979 and 1988 (nine percent and seven percent, respectively). Therefore, the increase in reported condom use has not resulted in a corresponding decrease in the use of effective female methods. Instead, there has been a substantial decrease in the proportion of young men who report having used no method or an ineffective method of contraception at first intercourse, from 71 percent in 1979 to 39 percent in 1988.

The substantial increase in condom use among adolescent males between 1979 and 1988 may be a result of the increased awareness of the risks of AIDS and increased knowledge about the capacity of condoms to prevent the transmission of the virus. Since AIDS is a relatively new phenomenon, the data gathered in 1988 can be used to test whether condom use at first intercourse has accelerated in recent years as information about AIDS has been disseminated to the general public and condoms have become more acceptable. To test this hypothesis, we used a logistic regression model to compare condom use

at first intercourse by year of first intercourse while controlling for race and age of the respondents.

The most important result of this analysis is that if first intercourse occurred in 1987-1988, the odds of using a condom increased 110 percent relative to the base period of 1975-1982 ( $p < 0.005$ ). Use of

Table 5. Percentages of never-married, sexually active males aged 15-19, by contraceptive method used at first intercourse, according to age at first intercourse and race/ethnicity

| Method and age at first intercourse             | All races (N=1,244) | Black (N=550) | White (N=443) | Hispanic (N=222) |
|---|---------------------|---------------|---------------|------------------|
| <b>Condoms alone or with other methods</b>      |                     |               |               |                  |
| All ages  | 55.0                | 43.5          | 57.9          | 52.1             |
| <12   | 16.5                | 27.0          | 2.2           | 11.1             |
| 12-14   | 48.3                | 36.9          | 52.3          | 41.1             |
| 15-17   | 60.6                | 56.6          | 61.5          | 59.1             |
| 18-19   | 64.1                | 37.4          | 63.7          | 66.1             |
| <b>Effective female methods without condoms</b> |                     |               |               |                  |
| All ages  | 7.2                 | 5.8           | 8.2           | 4.1              |
| <12   | 9.0                 | 0.0           | 27.1          | 0.0              |
| 12-14   | 3.4                 | 4.0           | 3.1           | 5.1              |
| 15-17   | 7.6                 | 9.6           | 7.9           | 4.1              |
| 18-19   | 19.6                | 0.0           | 21.2          | 22.1             |
| <b>Ineffective or no contraceptive method</b>   |                     |               |               |                  |
| All ages  | 37.8                | 50.6          | 33.9          | 42.1             |
| <12   | 74.5                | 73.0          | 70.8          | 68.1             |
| 12-14   | 48.3                | 57.1          | 44.6          | 53.1             |
| 15-17   | 31.6                | 33.8          | 30.6          | 36.1             |
| 18-19   | 16.3                | 62.6          | 15.1          | 11.1             |

Note: For the "All ages" category, racial differences were significant at  $p < 0.001$ ; for the "All races" category, age differences were significant at  $p < 0.001$  (chi-square).

Table 6. Percentages of never-married, sexually active metropolitan-area males aged 17-19, by contraceptive method used at first intercourse, according to age at first intercourse and race, 1979 and 1988

| Method and age at first intercourse             | 1979        |               |                  | 1988        |               |                  |
|---|-------------|---------------|------------------|-------------|---------------|------------------|
|   | All (N=426) | Black (N=195) | Nonblack (N=233) | All (N=579) | Black (N=256) | Nonblack (N=323) |
| <b>Condoms alone or with other methods</b>      |             |               |                  |             |               |                  |
| All ages  | 19.9        | 14.6          | 21.1             | 54.3        | 42.1          | 57.3             |
| <12   | .           | .             | .                | 11.7        | 23.7          | 0.0              |
| 12-14   | 18.5        | 11.7          | 18.8             | 36.3        | 37.0          | 35.9             |
| 15-17   | 21.2        | 17.9          | 22.4             | 60.5        | 52.0          | 61.9             |
| 18-19   | 25.1        | 53.9          | 23.2             | 75.3        | 42.2          | 77.2             |
| <b>Effective female methods without condoms</b> |             |               |                  |             |               |                  |
| All ages  | 9.0         | 8.6           | 9.1              | 6.7         | 8.5           | 6.3              |
| <12   | .           | .             | .                | 9.4         | 0.0           | 18.0             |
| 12-14   | 8.6         | 5.2           | 7.2              | 2.8         | 4.7           | 1.6              |
| 15-17   | 8.7         | 17.4          | 7.7              | 6.8         | 12.9          | 5.8              |
| 18-19   | 23.0        | 0.0           | 24.6             | 12.9        | 0.0           | 13.7             |
| <b>Ineffective or no contraceptive methods</b>  |             |               |                  |             |               |                  |
| All ages  | 71.1        | 76.8          | 69.8             | 39.0        | 49.4          | 36.4             |
| <12   | .           | .             | .                | 78.9        | 76.3          | 81.4             |
| 12-14   | 78.9        | 83.1          | 74.0             | 60.9        | 58.2          | 62.5             |
| 15-17   | 69.4        | 64.7          | 69.9             | 32.8        | 35.1          | 32.3             |
| 18-19   | 51.9        | 46.1          | 52.3             | 11.8        | 57.8          | 9.2              |

No males in category.

Note: All differences between 1979 and 1988 by age within racial groups were significant at  $p < 0.01$ , except the comparisons of 18-19-year-old blacks; no significance tests were conducted on categories of those younger than 12 (chi-square).

condom at first intercourse in 1983-1984 or in 1985-1986 did not show a significant difference from use during the base period. Being black was found to significantly decrease the odds of condom use at first intercourse by 29 percent ( $p < 0.01$ ). Age at first intercourse also has a significant independent effect on condom use at first intercourse: Each increasing year of age raises the odds of condom use 16 percent (0.001). While this model of condom use only contains a few variables, we interpret these findings as supporting the hypothesis that condom use among young men has increased rapidly and relatively recently as a result of increased public awareness of AIDS.\*

### Knowledge About AIDS

During the 1988 interview, NSAM respondents were asked a series of questions designed to assess their knowledge of AIDS and their level of concern about the disease. In general, the results in Table 7 show that the young men in the sample were very knowledgeable about how AIDS was transmitted. On a battery of 19 questions

used to assess knowledge levels, respondents achieved a mean correct score of 87 percent. Almost all the respondents knew that AIDS could be contracted through shared hypodermic needles (99 percent), blood transfusions (95 percent), sexual intercourse between men (99 percent), intercourse between a man and a woman (98 percent), vaginal intercourse (94 percent), anal intercourse (90 percent) and through intercourse with a partner who is an intravenous drug user (94 percent), bisexual (95 percent) or has had a lot of other partners (97 percent). The majority also knew that AIDS could not be transmitted by shaking hands or hugging (99 percent) or by sharing an apartment, class or office (96 percent).

Not as many respondents, however, knew that AIDS could not be transmitted by giving blood (60 percent), by being bitten by an insect (55 percent) or by sharing dishes or toilets (80 percent). In addition, scores were not as high regarding whether AIDS could be contracted through oral intercourse (67-69 percent) or from a person who has the AIDS virus but not the

disease (79 percent). These findings are similar to those from several other studies of teenagers' knowledge levels about AIDS.<sup>14</sup>

Knowledge regarding AIDS varied by race. On average, black and Hispanic young men scored significantly lower on the knowledge items than did the white young men (83-84 percent compared with 88 percent). In addition, older teenagers knew significantly more about AIDS than did younger ones. Knowledge was not related, however, to whether or not the respondent had had sexual intercourse.

In response to a question that asked, "Which of the following describes how you feel? I worry about AIDS: all the time, frequently, occasionally, seldom or never," 15 percent of the sample responded that they worried all the time. Levels of concern about AIDS were much higher among black and Hispanic young men than among white young men: One-third of black males and 29 percent of Hispanic males said they worried all the time, compared with 10 percent of white males. The reported levels of worry about AIDS did not vary significantly by age, but sexually experienced respondents worried significantly more about AIDS than did respondents without sexual experience.

There was a similar response pattern to a question asking, "What do you think are the chances that you could get the AIDS virus in the next five years? Do you think you have: a very strong chance, a strong chance, some chance, not much chance or no chance at all?" While only five percent of the sample thought they had a strong or very strong chance of getting AIDS, more than twice as many black or Hispanic respondents chose this response as white respondents. Sexually experienced respondents were also significantly more likely to think that they had a strong chance of getting the virus. There was no significant variation in responses by age.

Respondents were also asked whether they agreed (a lot or a little) or disagreed (a lot or a little) with the following statements: "Using condoms to prevent AIDS is more trouble than it's worth" and "Even though AIDS is a fatal disease, it is so uncommon that it's not a big worry." Seventy-nine percent said they disagreed a lot with the statement about condoms being too much trouble. This proportion is con-

\*To check whether our results were an artifact of truncation bias (because those having intercourse before 1982 would all be less than 13 at the age of first intercourse), we examined condom use at first intercourse across time periods only for those respondents in our

sample who initiated intercourse at ages 13-14. Since our sample consisted of 15-19-year-olds, every respondent was equally eligible to have initiated intercourse at ages 13-14. Among 13-14-year-old initiators, the proportions using condoms at first intercourse were 52

percent in 1975-1982, 33 percent in 1983-1984, 56 percent in 1985-1986 and 75 percent in 1987-1988. The difference between the 1987-1988 and 1975-1982 periods corresponds to a 2.64 odds ratio, which is quite close to our estimate of 2.1 from the logistic model.

sistent with the high levels of condom use that we report. Lower proportions of black and Hispanic young men disagreed with this statement than did white teenagers. Older teenagers reported higher levels of disagreement than did younger ones. Sexually experienced and inexperienced respondents appeared to share similar attitudes about condom use.

A very high proportion (82 percent) of the sample disagreed a lot with the statement about AIDS being so uncommon that it is not a big worry. Black, white and Hispanic young men appeared to share the same opinions on this item, as did young men of different ages and different levels of sexual experience.

Since knowledge levels about AIDS were high, our next concern was to assess whether young men who participate in behaviors that put them at risk of catching or spreading the HIV virus show high levels of condom use. For this analysis, the sexually active males in the sample were divided into high-risk, moderate-risk and low-risk groups. The high-risk group was composed of young men who had engaged in homosexual activity (three percent said they had done so), had had a sexually transmitted disease (three percent), had ever had sexual intercourse with a prostitute (one percent), had used intravenous drugs or had had a sexual partner who had used intravenous drugs (two percent). Self-reports of these behaviors may result in underestimates of prevalence; nevertheless, about nine percent of the sexually active males in the sample reported behaviors that put them in this high-risk group. The moderate-risk group was composed of young men who were not in the high-risk group and who reported that they had had sex with someone who was a stranger to them (18 percent), had had five or more sexual partners in the past year (six percent) or had had sex with someone who had had many sexual partners (27 percent). Thirty-eight percent of the sexually active males in the sample fell into this group. The low-risk group consisted of the remaining 54 percent of all sexually active young men who reported none of the behaviors found in the other two groups.

Contraceptive use at last intercourse was significantly different across the risk groups ( $p < 0.001$ ). The low-risk group exercised the most vigilance of the three groups in using condoms at last intercourse; 66 percent of males in this category reported having done so. Young men in the moderate-risk group reported the lowest level of condom use—45 percent—whereas approximately 51 percent of the

respondents in the high-risk group reported that they had used a condom at last intercourse, a proportion not unlike that among all sexually active males. However, within the high-risk group, only 21 percent of young men who had ever used intravenous drugs or who had had a sexual partner who had done so reported that they had used a condom at last heterosexual intercourse; this proportion was significantly lower ( $p < 0.001$ ) than the proportion who did not exhibit this risk behavior. Similarly, only 17 percent of the young men who reported that they had ever had sex with a prostitute said that they had used a condom at last intercourse ( $p < 0.01$ ). In contrast, 66 percent of young men who had ever had a homosexual experience or a sexually transmitted disease indicated they had used a condom at last heterosexual intercourse, the same proportion as the low-risk group.

Among males in the moderate-risk group, the levels of condom use were similar within subgroups, ranging from 37 percent among individuals with five or more sexual partners in the last year to 41 percent among individuals who had had sex with someone who had had many other partners. In a separate analysis, we found that condom use at last intercourse is negatively associated with the number of sexual partners in the last year. While 63 percent of young men with only one partner in the last year had used a condom at last intercourse, 56 percent of those with two partners, 45 percent of those with three or four partners and 37 percent of those with five or more partners had used a condom ( $p < 0.001$ ).

Overall, the young men who appear to have the highest rate of condom use are those who have engaged in homosexual intercourse, those who have ever had a sexually transmitted disease and those who have had a single sexual partner in the last year. This is a disparate group that includes individuals who might be labeled as being at very high and very low risk of AIDS. Certain high-risk subgroups, however, have significantly lower condom use rates than average for all teenagers. Young men who reported that they or their sexual partners were intravenous drug users, those who have ever had sex with a prostitute, a stranger or someone who has had many partners and those who themselves have had multiple partners report significantly lower rates of condom use at last intercourse than do other teenage males. Furthermore, a sizable minority of young males are in these high-risk categories: Forty-two percent of sexually active

Table 7. Among never-married males age 15-19, mean percentage of correct answers on AIDS knowledge test and percentage expressing attitudes of concern about AID by race/ethnicity, age and sexual experience

| Characteristic     | AIDS knowledge | Attitudes                     |                              |                                    |                                  |
|--------------------|----------------|-------------------------------|------------------------------|------------------------------------|----------------------------------|
|                    |                | Worry all the time about AIDS | Strong chance could get AIDS | Disagree: Condoms too much trouble | Disagree: AIDS is uncommon worry |
| Total              | 87.0           | 15.4                          | 4.6                          | 78.8                               | 8                                |
| Race/ethnicity     |                |                               |                              |                                    |                                  |
| Black              | 83.0           | 32.8                          | 7.2                          | 70.7                               | 6                                |
| White              | 88.4           | 10.1                          | 3.4                          | 81.7                               | 6                                |
| Hispanic           | 83.9           | 28.8                          | 10.6                         | 74.5                               | 6                                |
| Age                |                |                               |                              |                                    |                                  |
| 15                 | 85.5           | 18.6                          | 4.3                          | 73.5                               | 6                                |
| 16                 | 86.5           | 14.0                          | 4.1                          | 77.1                               | 7                                |
| 17                 | 87.3           | 14.4                          | 3.9                          | 83.5                               | 6                                |
| 18                 | 87.1           | 12.7                          | 4.9                          | 79.8                               | 6                                |
| 19                 | 88.9           | 18.1                          | 6.0                          | 79.4                               | 6                                |
| Sexual intercourse |                |                               |                              |                                    |                                  |
| Yes                | 87.0           | 17.3                          | 5.5                          | 78.9                               | 6                                |
| No                 | 86.9           | 12.5                          | 3.1                          | 78.4                               | 6                                |

Note: Racial differences were significant at  $p < 0.001$  for AIDS knowledge and for the first three attitudes. Differences were significant at  $p < 0.001$  for AIDS knowledge and at  $p < 0.05$  for "Disagree: Condoms too much trouble." Sexual intercourse differences were significant at  $p < 0.01$  for "Worry all the time about AIDS" and  $p < 0.05$  for "Strong chance to get AIDS."

youths in the NSAM survey reported being engaged in one or more of these behaviors.

## Conclusions

While sexual activity appears to have increased among adolescent males since 1979, data also indicate that reported condom use has increased dramatically among black and nonblack youths. The net result is that even though more teenagers are sexually active, proportionately fewer males may be at risk of the negative consequences of unprotected sexual intercourse in 1988 than in 1979. These consequences include AIDS, other sexually transmitted diseases and unintended pregnancy.

Furthermore, among those who are sexually active, the apparent rise in condom use among teenage males has occurred relatively recently, in the past few years. This interpretation of the data is corroborated by evidence that condom sales increased between 1986 and 1987, media attention to condoms went infrequent to frequent after the Surgeon General's Report was released in November 1986, and that at least one other study of teenagers in Massachusetts has reported increases in condom use between 198-

1988.<sup>20</sup> The apparent acceleration in condom use is consistent with increased knowledge and awareness about the risks of AIDS and the increased accessibility of condoms.

Cursory examination of knowledge and concern about AIDS among the young men in our sample has shown that they are, in general, very knowledgeable about how the disease is transmitted, that they do not dismiss it as uncommon or requiring too much trouble, and that small proportions worry all the time about the disease and think that they have a strong chance of getting the disease. Given the disproportionately high incidence of AIDS among blacks and Hispanics, the tendency of these youths to have significantly lower levels of knowledge about the disease and to be more likely to believe that condoms are too much trouble is a cause for concern. On the other hand, young black and Hispanic men are more likely to worry all the time about AIDS and to think that their chances of getting AIDS in the next five years are high—views that are consistent with the reality of the epidemiology of AIDS and that would suggest the basis for motivation to avoid transmission. Young men who are sexually experienced are also more likely to worry about AIDS and to assign higher risks to themselves than are sexually inexperienced males. It appears that public education efforts to disseminate information about AIDS have reached most teenage men.

Although more than half of sexually active teenage males report that they used a condom at last intercourse, the rates of utilization are significantly lower among certain subgroups of this population. Unfortunately, lower rates of use are reported by young men who engage in behaviors that put them at greater risk of AIDS transmission—the teenagers for whom higher than average rates of condom use would be extremely desirable. It is clear from these data that preventive efforts need to target high-risk populations, such as intravenous drug users and their partners.

In spite of the indications of a dramatic increase in condom use among adolescent males in general since 1979, we may well ask whether the increase has been sufficient, given the catastrophic proportions of the AIDS epidemic. Behavior has changed in response to AIDS, but utilization rates should be higher still if sexually active teenagers are to be protected against the virus. We have already targeted high-risk teenagers—those with a history of involvement with intravenous drugs, prostitutes or many sexual partners—for addi-

tional efforts. In addition, we believe that condom use rates among teenagers who have had homosexual contacts or who have had sexually transmitted diseases should be well above average and, therefore, require continued efforts at improvement. We are also not sanguine about the one-third of low-risk, sexually active teenage males who did not use condoms at last intercourse. Improving condom use among all sexually active teenagers should be a national priority.

These new data indicate that the contraceptive behavior of sexually active teenagers is susceptible to change. The use of condoms is clearly more acceptable among teenage men since AIDS became a major public health concern. More than half of the sexually active young men interviewed in 1988 said that they had used a condom at last intercourse. This is not necessarily a measure of consistency of use, and the question remains whether consistent condom use among sexually active teenagers can become the norm. The new NSAM findings suggest that some movement may have been made toward the attainment of this objective.

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## TEEN OUT-OF-WEDLOCK BIRTHS AND WELFARE RECEIPT: THE ROLE OF CHILDHOOD EVENTS AND ECONOMIC CIRCUMSTANCES

Chong-Bum An, Robert Haveman, and Barbara Wolfe

In 1990, nearly 700,000 teenage girls (one out of about every 12) became pregnant out-of-wedlock and half of them carried the pregnancy to term. Soon after giving birth, most of these girls applied for and were awarded AFDC benefits. Indeed, three out of four recipients of AFDC benefits who are under age 30 had a first birth as a teenager, in most cases out-of-wedlock. About \$20 billion is paid annually through AFDC, food stamps and Medicaid to women who first gave birth as teenagers. Each family that began with a first birth to a teenager will cost the public an average of about \$14,000 over the next 20 years [Trussell, 1988]. In addition to welfare dependency, a wide variety of other dysfunctional consequences are associated with teen fertility out-of-wedlock—rapid subsequent fertility, low educational attainment, poor marriage prospects, high rates of marital dissolution, and a high incidence of poverty.

This problem is far more serious among blacks than among whites. For example, while the birth rate among white teens stands at 43 per 1000 females, the black teen birth rate is 90 [Moore, 1989]. Teen births account for about 23 percent of all births to black women; only about 11 percent of births to white women. Moreover, births to unwed mothers account for about 90 percent of births to black teenagers, compared to about 50 percent for whites.

In the research reported here, we employ a 20 year data set on 892 young women ages 19 to 25 in 1987. Our objective is to measure the influence of family background, individual characteristics, the availability of economic resources while growing up, and particular disruptive family events while growing up on both the probability of a teen out-of-wedlock birth and the receipt of AFDC benefits subsequent to the birth. The framework that we employ attempts to measure the

rather close tie between the decision to have an out-of-wedlock birth and that to apply for and receive welfare benefits.

## I. SOME THEORETICAL CONSIDERATIONS

Less well known than the existence and extensiveness of the teen out-of-wedlock birth phenomenon is its relationship to the characteristics of those teens having nonmarital births, or to the characteristics of the families in which they have grown up, or to other factors such as welfare benefits or employment opportunities that may be causal to this behavior. Nonetheless, speculations concerning the determinants of out-of-wedlock, teenage births abound.

The role of the welfare system is probably the linkage about which most has been written. Growing up in a welfare family--and, hence, a mother-only family--is thought by some to have a demonstration effect, hence the numerous claims regarding "intergenerational welfare dependency". The lifestyle of welfare mothers--often characterized by non-stable relationships with males, dependence on government support for economic livelihood, the absence of work, and the presence of children often born out-of-wedlock--may be seen by daughters as acceptable, if not ideal, and in any case not frowned upon in the families, communities, or neighborhoods in which they grow up.

Information problems and the lack of connections have also been suggested as causal to the phenomenon. Children from poor or welfare families, it is hypothesized, are either poorly informed about labor market opportunities (at least relative to information about welfare and other nonwork options), or lack the connections essential for market success even if they have information. Again, poverty and welfare reciprocity are seen as the source of this absence of information and connections, and as a result young women who have grown up in poor or welfare families tend to relatively undervalue opportunities in the labor market that may be an alternative to childbearing. The linkage

here involves a rational choice among options, albeit one based on erroneous or asymmetrical information.

A third connection, one based on sociological insights, has also been suggested. Stressful and unsettling events during childhood or early youth—for example, divorce or separation of parents or changes in household location—may stimulate feelings of insecurity, which feelings can be assuaged by the "possession" of something, someone, who counts, who stays, and who provides love and affection. When these events are compounded by the hopelessness which comes with growing up in poverty, and the uncertainty that surrounds the prospects for and stability of employment for young (often, minority) males who might be potential mates, the desire for the security that comes with motherhood is even stronger. Delayed marriage and nonmarital parenthood are the result.

A final potential linkage is more economic in character. The decision of a teenage unwed woman regarding childbearing may be made so as to maximize her wellbeing in both the short and long runs. Having a child out-of-wedlock gives access to welfare income, social services, and job-specific education and training, and the potential benefits which they convey. Perhaps as important, it gives independence from life in a family situation which may be oppressive — the excuse, if not the resources, to establish an independent living arrangement. The costs, on the other hand, may not be perceived as great, and include sustenance costs (some portion of which are covered by public benefits), child care costs (which may be small if parents, grandparents or other relatives are accessible), and the foregone earnings from those jobs for which the teenage girl may qualify. These costs, in any case, may be offset by reductions in the obligation for continued attendance at traditional schools (with potential discipline, failure, and boredom correlates), work in those unpleasant jobs available to those youths with low skills, increases in feelings of worth and security (noted above), and the opportunity to form a "community" with other young women in like circumstances. Out of this comes the teen unmarried woman's demand for children—her wellbeing will be maximized given

the expected benefits from a child, the costs of securing it and raising it, and her budget constraint (which differs between the two options), constrained of course by her aptitudes and aspirations.

In addition to these hypotheses, empirical research in sociology has suggested the importance of a number of other variables. The number of siblings, for example, has been hypothesized to be a determinant of adolescent fertility. Large family size is associated with overcrowding and low income, and because parental time has to be distributed more widely there is probably less interaction and communication between parents and children when more siblings are present. Neighborhood characteristics have also been cited as affecting the life experiences of young people. Areas that are disproportionately populated by female headed families or which have a high ratio of teenagers to adults or which have high crime or drug-use incidence rates may indicate low parental control over children's behavior and activities.

## II. LITERATURE REVIEW

Research on the determinants of teenage out-of-wedlock fertility is found primarily in the sociology and demography literatures. A good starting point is the important article by Hogan and Kitagawa (1985), which reviews much of the preceding literature in this field. Even more recent reviews are Hayes (1987) and Hofferth and Hayes (1987).

The ethnographic research on the determinants of teen out-of-wedlock births tends to search for relations among important variables through detailed observation of and interviews with relatively small numbers of individuals, nonrandomly chosen and typically in a single community. As Hogan and Kitigawa report, this research suggests that teenage women who are black, who live in lower socio-economic class families, or in neighborhoods characterized by instability in employment among male youths, who have grown up in large mother-only families and who have sisters who have given birth out of wedlock are more likely to achieve adult status through teenage motherhood than those

with different characteristics. The demographic research cited by Hogan and Kitagawa is described as largely having ignored "the impact of family factors, social and economic characteristics, and neighborhood influences" (p. 832), in part because the survey data used tends to be too crude to adequately describe the personal, family and neighborhood circumstances that effect the decisions of teenagers.

In their own study, Hogan and Kitagawa use a stratified random sample of more than 1000 black teenage females in Chicago in 1979. Using a variety of statistical methods involving numerous control variables, they found that pregnancy rates in this sample were positively related to having parents that were not married, the number of siblings, low social class family status, low parental control of dating, having a sister who is a teenage mother, and having low career aspirations. While living in a low quality neighborhood had a gross positive relationship to teen fertility, it was found to have been mediated by parental control over early dating patterns.

More recently, Antel (1988) has used data from the National Longitudinal Survey of Youth (NLSY) 1979-86 to analyze the determinants of out-of-wedlock births prior to age 21. His model attempts to control for possible unobserved family-specific heterogeneity by simultaneously modeling the daughter's fertility outcome and the mother's prior welfare participation, in a bivariate probit specification. Exogenous variables explaining the daughter's fertility include race, family socio-economic status, proxies for the taste for children, attitudes toward early motherhood, and mother's welfare status. Mother's welfare status depends on variables reflecting opportunities in both the labor and "welfare" markets, age, number of children and nonlabor income. Antel finds that "a mother's dependency thus appears to stimulate her daughter's early fertility out of wedlock" (p. 17), and does so in a nontrivial way. Minority status, the education of the mother, the number of siblings, and socioeconomic status were also found to be related in a statistically significant and expected manner to out-of-wedlock births among teenagers.

A study by Plotnick (1988) also addresses the determinants of teenage out-of-wedlock childbearing, again using the NLSY data on the fertility and marital history of teenage girls, in this case from 1979 to 1984. Plotnick adds to the personal and family background data in this survey, state information on welfare policy, family planning policy and service availability, and the socio-economic environment (proxied by four characteristics of the girl's school). Logit estimates over the groups of blacks, hispanics and whites indicate that the determinants of teen childbearing out-of-wedlock differs substantially among them, a finding of a number of other studies of this issue. Of the basic demographic and other variables, none is statistically significant for all three groups. Contrary to other empirical work [e.g., Ellwood and Bane (1985)], Plotnick finds that the size of the welfare guarantee does have a significant positive effect for whites and hispanics, increasing the probability of out-of-wedlock births. Welfare generosity is not significant for blacks.

In an extension of this work, Plotnick and Lundberg (1990), follow the fertility and marital history of a sample of about 1700 teenage girls (aged 14 to 16 in 1979) in the NLSY from 1979 to 1986. Using a three-stage nested logit framework, they model the sequential decisions of teenage pregnancy and its possible outcomes--abortion, birth within marriage, and out-of-wedlock birth. The independent variables of interest include economic determinants--the opportunity cost of carrying to term (within marriage it is the potential wage loss; out-of-wedlock it is the wage loss less the welfare guarantee, measured as expected AFDC cash benefit plus food stamps)--and variables proxying for psychic wellbeing in the alternative states. State abortion policies (including program funding levels) are included in the model as well. Consistent with Plotnick's earlier findings, the level of welfare benefits is positively and significantly related to the probability of teen out-of-wedlock birth for whites; consistent with Duncan and Hoffman (see below) and with Plotnick's earlier study, welfare benefits are not significantly related to out-of-wedlock births for blacks. State funding of abortions is found to significantly influence the probability of an abortion for whites, while long-run opportunity

costs of giving birth as a teen also significantly influence the probability of pregnancy and abortion among whites.

Three other recent studies deserve to be mentioned. One, by Duncan and Hoffman (1989), using data on black teenagers from the Michigan Panel Study of Income Dynamics, also explicitly models teenage, out-of-wedlock births as a rational decision. In their framework, a choice is made by the teenager, who compares the welfare income opportunities associated with having an out-of-marriage birth with the income opportunities that are likely if no there is no such birth (namely, the opportunities offered by a career and possible marriage). Consistent with the findings of Plotnick, Plotnick and Lundberg, and Ellwood and Bane, Duncan and Hoffman found only weak and statistically insignificant effects of the level of welfare benefits, but strong effects related to income expectations if a birth does not occur.

A second study, that by Abrahamse, Morrison and Waite (1988), uses data from the High School and Beyond survey to follow a large sample of high school sophomores as they mature through the years up to age 19, comparing the ones who form single parent families with those who do not. A variety of background factors were analyzed in an attempt to discern which of them (or which constellation of them) appeared to cause some women to be more predisposed to become single teenage parents than others. Using both simple relationships and multivariate analysis, the authors concluded that a constructed "parenthood risk scale" (reflecting race, academic ability, family structure and socioeconomic status) had a major effect on the likelihood of teen out-of-wedlock births, but that various forms of parental control or interactions, religiosity, peer group attitudes, and individual attitudes could alter the risk substantially, for both women in the high "parenthood risk" category and those in the low risk category. Most importantly, evidence in this study indicated that the effect of the high and low risk categories on the chances that a teen becomes a single mother differs among the black, white and hispanic populations.

This same pattern of differential risks between blacks and whites, and different effects of background variables on the risk of unmarried motherhood, was found in a study by Bumpass and McLanahan (1989). Using data from the 1982 National Survey of Family Growth on women 15-44 years of age, the authors first estimated the effect of race, growing up in a single parent family, parental education, region, and central city residence on the risk of a nonmarital birth. Parental education and growing up in a single parent family had large and statistically significant effects, and overall the non-race characteristics explained about one third of the racial differences in the risk of single motherhood. Estimating the models separately for blacks and whites resulted in the same general patterns of risk factors, but the magnitude of the effects differed between the races. Grouping factors so as to form "high risk" (women from disrupted families, whose parents did not complete high school, and who lived in central cities in the Northeast) and "low risk" categories explained a very large proportion of the variation among women in terms of the probability of experiencing a nonmarital birth. For example, white women in the high risk category had a 52 percent chance of having a nonmarital birth, while women in the low risk category had but a 5 percent chance. For blacks the chances were 82 and 32 percent in the two risk categories. It should be noted that the results from this research pertain to nonmarital births for all women aged 15-44 years, and not only to those in their teens.

A number of important findings concerning the correlates and determinants of teen out-of-wedlock births seem firm from these studies. These include: 1) the importance of racial differences in the prevalence of teen nonmarital births, even after controlling for a variety of socioeconomic, attitude, family circumstance, neighborhood and urban-rural factors, 2) the importance of a variety of "risk" factors (growing up in a disrupted family, having parents with low levels of educational attainment, living in central cities, close parental supervision, and having a sibling who is a single childbearer), in addition to race and ethnicity, and 3) the uncertain effects of a number of important,

and oft-speculated variables on this outcome, including the generosity and lenience of welfare programs, and the welfare participation and work status of the mother of the teen woman when she was growing up.

While a number of these findings seem relatively robust over the studies, a variety of weaknesses pervade the methods and data on which the studies rest. Few of the studies rely on longitudinal data, and hence are unable to detect the effect of events and circumstances early in a girls life on the probability that she will experience a teen nonmarital birth. Even for those studies that have a longitudinal dimension, only prior events and circumstances after age 14 are typically recorded in the data. The methods of the studies vary widely, and hence the comparability and reliability of their results are difficult to assess. The extent to which relevant family background characteristics are included in the data on which the estimates rests varies widely; for some of the studies the number of relevant characteristics is quite limited. Finally, some of the studies are based on rather dated information, a factor which is particularly relevant in this area where behavioral patterns appear to be changing rapidly.

As suggested above, the decision to receive welfare benefits is linked to the decision to have an out-of-wedlock birth. Indeed, Duncan and Hoffman report that in their sample of black teenage unwed mothers, two-thirds of those that chose to give birth out-of-wedlock received AFDC income within two years of the birth. The empirical estimates of the determinants of welfare receipt are numerous, and often focus on the extent to which welfare participation is intergenerationally transmitted—are daughters who grew up in families which receive welfare benefits more likely to themselves receive public assistance? Because our study also sheds light on this question (for teenage nonwed mothers), we briefly examine the findings in this literature as well.

Since the receipt of AFDC benefits presupposes either an out-of-wedlock birth or a divorce after childbearing, most of the studies examine similar factors. The participation in welfare of the

mother of the teenage girl is the primary variable of interest in many of these studies. Typically, mother's participation is measured over a specified and limited period of time ( a two-to three year window), and a similar limited period is observed for the daughter once she leaves home. These studies include Antel (1987), Rainwater (1987) and Duncan, Hill and Hoffman (1988). The studies tend to show a weak but positive dependence of the daughter's receipt of welfare benefits on the mother's earlier welfare participation.

Gottschalk's 1989 paper critiques this research strategy, and suggests that: 1) the period (or window) of observation time in these studies is too short, and 2) some mothers are never eligible for welfare (and hence should be excluded from the study). Both of these weaknesses, he concludes, lead to biased estimates of the strength of the intergenerational transmission relationship. The former factor leads to a downward bias in the estimate; the latter to an upward bias. In his empirical work, Gottschalk uses the NLSY for 1979 to 1985 for daughters 14 to 22 in the beginning year. While the window of observation is not a problem for the daughters, Gottschalk still faces a limited set of years over which mothers' welfare participation is observed. Using a sample of about 900 daughters who grew up in families eligible for AFDC benefits and a longer period of observations on daughters than was available in prior studies, he examines the relationship between the probability a teenage daughter has a nonmarital birth and (conditional on this birth) receives AFDC benefits, and the mother's welfare participation. He finds this relationship to be positive and significant for blacks and whites, but not Hispanics.

### III. A SEQUENTIAL DECISION MODEL

This study builds on previous research on the determinants of both teenage out-of-wedlock births and the receipt of AFDC benefits. Its focus is the population of unmarried teenage women, and its objective is to model their decision to give birth as unwed teenagers, and then, conditional on

having given a birth, to apply for and receive AFDC benefits. The potential role of the prior welfare participation of the mothers of these young women will be an important focus, as will other economic circumstances and the characteristics of the families in which they have grown up.

The structure of the model that we estimate attempts to characterize correctly the nature of the decisions confronting unwed teenage girls, and reflects the fact that the decision to receive welfare benefits is conditional on having carried a pregnancy to term. Hence, the basic question that we pose is similar to that explored in Duncan and Hoffman. However, we avoid the potential misspecification associated with treating identically teenage girls who give birth out-of-wedlock but do not receive welfare benefits and teenage girls who do not give birth (and have no basis for welfare receipt), and modeling their behavior as if they were a single homogenous group. Hence, we explicitly investigate why some teenagers who give birth out-of-wedlock choose to receive welfare benefits while others do not.

In this sequential model, the first decision of the unwed teenager is whether to give birth; the second decision is whether or not to receive welfare benefits conditional on having had a child. This formulation has several advantages. First, by separating the out-of-wedlock fertility decision from the welfare receipt decision, the various determinants of each of these choices can be analyzed. Second, by separating the two choices, we can test the importance of available AFDC benefits in the decision to have a birth out-of-wedlock as a teenager. Finally, by correcting for selection bias while treating the choices as part of a simultaneous model, a consistent estimate of the determinants of welfare receipt by these women can be had.

Our econometric model has the following simultaneous equation system:

$$(1) \quad I_1^* = Z_1 \gamma_1 + K\delta_1 + e_1$$

Teen Out-of-Wedlock  
Birth decision

$$(2) \quad I_2^* = Z_2 Y_2 + K \delta_2 + e_2 \quad \text{AFDC Receipt decision}$$

where  $I_1^*$  is the choice of having an out-of-wedlock birth as a teenager and  $I_2^*$  is the choice of receiving AFDC benefits subsequent to having a teen out-of-wedlock birth.

$$(3) \quad K = W\Phi + e_1$$

$$(4) \quad I_1 = \begin{cases} 1 \text{ iff } I_1^* > 0 & \text{[Having a teen out-of-wedlock birth]} \\ 0 \text{ otherwise} & \text{[Not having a teen out-of-wedlock birth]} \end{cases}$$

$$(5) \quad I_2 = \begin{cases} 1 \text{ iff } I_2^* > 0 \text{ and } I_1 = 1 & \text{[Having a teen out-of-wedlock birth and receiving AFDC]} \\ 0 \text{ iff } I_2^* \leq 0 \text{ and } I_1 = 1 & \text{[Having a teen out-of-wedlock birth and not receiving AFDC]} \end{cases}$$

By normalization,  $V(\epsilon_1) = V(\epsilon_2) = 1$ . Then, the covariance matrix between (1) and (2) is given by

$$\Sigma = \begin{bmatrix} 1 & \rho \\ \rho & 1 \end{bmatrix}$$

The Z vector contains exogenous variables that are expected to influence the choices  $I_1$  and  $I_2$ . The variable K in (3) is also used as an explanatory variable in the two decision equations. K includes any variable that might cause simultaneity bias if it would be used in the decision equation without having its own equation. For example, the average level of income of the girl's family relative to its needs seems to be correlated to both  $\epsilon_1$  and  $\epsilon_2$ , so that we use the instrumental variable method for

correcting for the resulting bias. This specification of  $K$  will provide the necessary flexibility to enable the empirical analysis of the determinants of teen fertility out-of-wedlock and subsequent AFDC reciprocity.

Under selection rules (4) and (5), the probability  $P_j$  that the individual will fall into the  $j$ th subsample is given by

$$\begin{aligned} (6) \quad P_1 &= Pr(I_1 = 0) = Pr(I_1^* \leq 0) \\ &= Pr(e_1 \leq -Z_1\gamma_1 - K\delta_1) = 1 - F(Z_1\gamma_1 + K\delta_1) \end{aligned}$$

$$\begin{aligned} (7) \quad P_2 &= Pr(I_2 = 0) = Pr(I_1^* > 0, I_2^* \leq 0) \\ &= Pr(e_1 > -Z_1\gamma_1 - K\delta_1, e_2 \leq -Z_2\gamma_2 - K\delta_2) \\ &= G(Z_1\gamma_1 + K\delta_1, -Z_2\gamma_2 - K\delta_2; \rho) \end{aligned}$$

$$\begin{aligned} (8) \quad P_3 &= Pr(I_2 = 1) = Pr(I_1^* > 0, I_2^* > 0) \\ &= Pr(e_1 > -Z_1\gamma_1 - K\delta_1, e_2 > -Z_2\gamma_2 - K\delta_2) \\ &= G(Z_1\gamma_1 + K\delta_1, Z_2\gamma_2 + K\delta_2; \rho) \end{aligned}$$

where  $F()$  and  $G()$  denote the standardized univariate and bivariate normal distribution functions, respectively.

We can partition the original sample into three mutually exclusive subsamples:

$S_1$ : those who do not have a teenage out-of-wedlock birth,

$S_2$ : those who have a teenage out-of-wedlock birth, but do not receive AFDC benefits, and

$S_3$ : those who have a teenage out-of-wedlock birth and receive AFDC benefits.

The likelihood function for the entire sample has the following form:

$$(9) \quad L = \prod_{S_1} [1 - F(Z_1\gamma_1 + K\delta_1)] \cdot \prod_{S_2} G(Z_1\gamma_1 + K\delta_1, -Z_2\gamma_2 - K\delta_1; \rho) \\ \cdot \prod_{S_3} G(Z_1\gamma_1 + K\delta_1, Z_2\gamma_2 + K\delta_2; \rho)$$

The estimable parameters of this model are  $\gamma_1$ ,  $\gamma_2$ ,  $\delta_1$ ,  $\delta_2$  and  $\rho$ . The maximization of (9) with respect to  $\gamma_1$ ,  $\gamma_2$ ,  $\delta_1$ ,  $\delta_2$  and  $\rho$  will yield consistent estimates  $\hat{\gamma}_1$ ,  $\hat{\gamma}_2$ ,  $\hat{\delta}_1$ ,  $\hat{\delta}_2$  and  $\hat{\rho}$ .

This model is fit by full information maximum likelihood techniques, and proceeds in two stages. In the first stage, we fit an ordinary least-squares equation describing the level of economic circumstances of the family in which the young woman grew up. The average income-to-needs ratio, measured as the average of the level of post-transfer family income divided by the poverty line of the girl's family over her ages 6-15, is used as the indicator of the economic resources that were available to her when she was a child. The literature, and we, refer to this as the "welfare ratio." The second stage, fit by maximum likelihood techniques, is a bivariate probit model estimating, first, whether or not the girl was observed to have an out-of-wedlock birth during teenage years (ages 13-18);<sup>1</sup> and second, if an out-of-wedlock birth was observed, whether or not the girl received AFDC benefits at any time within the subsequent three post-fertility years.

#### IV. DATA, VARIABLES AND ESTIMATION METHODS

The basic sample of observations used for the analysis comes from the 1987 tape (wave 20) of the University of Michigan's Panel Study of Income Dynamics (PSID). The individuals selected from that tape are females aged 6 years or less in 1968. In 1987, then, the ages of the women in the

sample ranged from 19 to 25 years of age. Hence, the individuals in the sample were children during most of the period of observation, but by the terminal year had passed through virtually all of the teenage years.

Of the 912 observations that meet our criteria for inclusion in the sample, 20 had two or more years of missing information. These observations were discarded. Those observations with but one year of missing data (15 observations) were retained, and the missing data were filled in largely by averaging the data for the two years contiguous to the missing information. This left 892 in our sample.

To enable individual observations with different birth years to be compared, all of the time indexes were transformed from the year of the survey to the age of the individual. Hence, for two individuals aged 2 and 6 in 1968, for example, we obtain comparable information on each from age 6 until age 18 by using the data on the 1972-1984 waves for the first child, and the data on the 1968-1980 waves for the second. For monetary data, all dollar values were converted to 1976 prices using the Consumer Price Index.

Our first stage ordinary least squares regression has as its dependent variable the welfare ratio (total annual income divided by the official poverty line for that year) of the family in which the girl lived, averaged over the years during which she was age 6-15. The dependent variable in the teen out-of-wedlock birth equation is a dummy variable = 1 if the girl gave birth out of wedlock while aged 13-18; that for the receipt of AFDC benefits subsequent to a teen out-of-wedlock birth equation is a dummy variable = 1 if the teen mother received AFDC benefits in any of the three years after giving birth out of wedlock. We run the estimates over our entire sample, and for racial subgroups; we also test for differences between the random observations and the SEO sample observations, to account for the oversampling in the PSID from the low income population.

Determination of the receipt of AFDC benefits in the PSID is difficult due to both the lack of individual data related to transfer recipiency and to the lack of accuracy in distinguishing transfer income from various programs by the recipients. Our measurement of AFDC recipiency is based on responses to several questions in the survey:

--Type of transfer income from individual responses = TYPE

--Relationship of the individual to the household head = RELHEAD

--Head and wife's AFDC income = HWAFFDC

--Head and wife's other welfare benefits = HWOWE

If TYPE is AFDC only, other welfare only, or both in any of the three years after the girl had a teen out-of-wedlock birth, the girl is assumed to be an AFDC recipient. In addition, if RELHEAD is "head", "wife", "child", or "grandchild" and either HWAFFDC or HWOWE is positive, the girl is assumed to be an AFDC recipient.<sup>2</sup>

In our sample of 892 girls, 130 (14.6 percent) had a birth out-of-wedlock while a teenager, and 762 (85.4 percent) did not. Of the 130 girls having a teen out-of-wedlock birth, 91 (70 percent) received welfare within the subsequent three years and 39 (30 percent) did not. Among the 437 black girls in our sample, 105 (24 percent) had a teen out-of-wedlock birth by age 18. Of these, 74 (70 percent) received welfare within three years. For 874 black girls aged 15-19 in the PSID, Duncan and Hoffman found that 66 percent (unweighted) did not have a teen out-of-wedlock birth. Of the 295 girls that had an out-of-wedlock birth in that sample, 68 percent received AFDC benefits in the subsequent two years.

We group the independent variables employed in our analysis into four categories: 1) demographic and background information on the child and her parents, 2) measures of the economic circumstances of the family while the child was between ages 6 and 15, 3) indicators of family stress during childhood, and 4) indicators of economic conditions in the geographic area of residence. For

the family stress variables, we coded the variable for each year, assigning a value of "1" if the event occurred in that year and a "0" otherwise.

Basic Background Variables (Weighted means and standard deviations in parenthesis)

- Race (black = 1)  $\bar{X} = .49 (.16)$ ;  $\sigma = .50 (1.59)$
- Religion<sup>3</sup> (dummy variables for Protestant, Catholic, and Jewish, with Other being the excluded category, or a single dummy variable for any religion = 1) Catholic  $\bar{X} = .19 (.28)$ ;  $\sigma = .39 (1.97)$ ; Protestant  $\bar{X} = .73 (.60)$ ;  $\sigma = .44 (2.14)$ ; Jewish  $\bar{X} = .01 (.02)$ ;  $\sigma = .10 (.66)$
- Number of siblings  $\bar{X} = 2.60 (2.13)$ ;  $\sigma = 1.64 (6.45)$
- Mother's age at first birth  $\bar{X} = 22.0 (22.5)$ ;  $\sigma = 5.0 (22.5)$
- Father's education<sup>3</sup> (dummy variables for completing high school, some college, and college graduate, with less than high school being the excluded category) Dad High School,  $\bar{X} = .23 (.30)$ ,  $\sigma = .42 (2.0)$ ; Dad Some College,  $\bar{X} = .08 (.13)$ ,  $\sigma = .28 (1.49)$ ; Dad College,  $\bar{X} = .10 (.19)$ ;  $\sigma = .30 (1.71)$
- Mother's education<sup>4</sup> (defined in the same way as the father's education with an alternative dummy variable for high school graduate which includes those with more education) Mom High School,  $\bar{X} = .28 (.46)$ ;  $\sigma = .49 (2.18)$ ; Mom Some College,  $\bar{X} = .08 (.11)$ ;  $\sigma = .27 (1.42)$ ; Mom College  $\bar{X} = .04 (.07)$ ;  $\sigma = .19 (1.10)$ ; Mom High School Graduate,  $\bar{X} = .50 (.65)$ ;  $\sigma = .50 (2.09)$
- One parent in 1968 (only one parent present in 1968, hence no education variable is available for father)  $\bar{X} = .18 (.08)$ ;  $\sigma = .38 (1.22)$
- No parents in 1968 (no parents present in 1968, hence no education variable is available for mother or father)  $\bar{X} = .04 (.01)$ ;  $\sigma = .19 (.53)$
- Head foreign born (foreign born = 1)  $\bar{X} = .02 (.02)$ ;  $\sigma = .13 (.66)$
- Years in SMSA (lived in urban area in that year = 1)  $\bar{X} = 7.20 (6.92)$ ;  $\sigma = 4.26 (18.95)$

- Grandparents poor (head's parents were poor while head grew up = 1)  $\bar{X} = .54 (.45)$ ;  
 $\sigma = .50 (2.18)$
- Years head disabled (limited in ability to work because of health) while child aged 6-15 (limited = 1)  $\bar{X} = 1.73 (1.13)$ ;  $\sigma = 2.75 (9.76)$
- Years in South (lived in South in that year = 1)  $\bar{X} = 4.71 (2.86)$ ;  $\sigma = 4.94 (19.5)$
- Mom out-of-wedlock birth  $\bar{X} = .17 (.09)$ ;  $\sigma = .38 (1.22)$
- Split-off from family  $\bar{X} = .33 (.32)$ ;  $\sigma = .47 (2.02)$
- Lost grade level (= 0 if the individual completed 12th grade at age 18).  $\bar{X} = .17 (.16)$ ;  
 $\sigma = .56 (1.8)$
- Control for missing grade  $\bar{X} = .09 (.08)$ ;  $\sigma = .29 (1.17)$
- Occupation of head, year daughter gave birth, 1 = professional, managerial, 2 = white collar, 3 = high skill blue collar, 4 = low skill blue collar, 5 = unemployed  $\bar{X} = 3.17 (2.7)$ ;  
 $\sigma = 1.43 (6.2)$
- Dummy variable for lived in South while child aged 14-17  $\bar{X} = .48 (.30)$ ;  $\sigma = .50 (2.00)$

#### Economic and Family Stress Variables

- Average income-to-needs (welfare) ratio = average of family income for each year the daughter was 6-15 divided by the matched poverty line  $\bar{X} = 2.33 (3.13)$ ;  $\sigma = 1.8 (9.18)$
- Parental welfare reciprocity (= 1 if the individual lived in a family that received benefits from the Aid to Families with Dependent Children program in any year until child 15)  $\bar{X} = .29 (.17)$ ;  $\sigma = .46 (1.66)$
- Receipt of AFDC benefits by a mother before the daughter had a birth (= 1 if mother a recipient)  $\bar{X} = .58 (.49)$ ;  $\sigma = .50 (1.67)$ , defined over 130 daughters who had a teen out-of-wedlock birth

• Years living with one parent (= 1 if lived with one parent in that year over years while child 6-15)  $\bar{X} = 2.85$  (1.76);  $\sigma = 3.97$  (14.0)

• Number of household moves (= 1 if a change in household location is made by the family of the individual in that year)  $\bar{X} = 1.51$  (1.76);  $\sigma = 1.72$  (13.96)

• Number of parental separations (= 1 if the parents of the individual separated or divorced in that year)  $\bar{X} = .26$  (.27);  $\sigma = .49$  (2.19)

• Parental remarriage (= 1 if the parent of the individual remarried while the child ages 6-15)  $\bar{X} = .13$  (.13);  $\sigma = .34$  (1.49)

#### Community Economic and State Welfare Generosity Variables

• Bad neighborhood in 1976 [= 1 if reply to 1) burglaries and robberies; 2) muggings, rapes, pushers, junkies, or too few police; 3) crowded area with too many people, too much noise, and bad traffic; 4) a poor neighborhood for kids; or 5) unkept yards, grounds, houses poorly kept up or infrequent or sloppy garbage pickups is "that it is a big problem."]  $\bar{X} = .48$  (.37);  $\sigma = .50$  (2.11)

• Median income, county of residence year in 1974  $\bar{X} = 9402$  (9887);  $\sigma = 2164$  (9964)

• Average unemployment rate, county of residence, ages 6-15  $\bar{X} = 6.30$  (6.35);  
 $\sigma = 1.65$  (7.68)

• Maximum AFDC plus food stamp benefits plus average Medicaid expenditures for a family of four, state of residence,<sup>4</sup> ages 6-15 in 1982 personal consumption expenditure (PCE) dollars  $\bar{X} = 605.95$  (630.53);  $\sigma = 134.8$  (591.5)

In the estimates, we totaled the number of times each time-related event occurred in the child's family from age 6 to age 15. Time-related events include years lived with one parent, number of household moves and number of parental separations, as well as the years head disabled, and years

in SMSA variables. The state maximum AFDC, plus food stamp benefit, plus Medicaid expenditures variable used in the estimates are averages over relevant years—in the welfare ratio equation and the teen out-of-wedlock birth equation, the average is taken over the child's ages 6-15; for the receipt of AFDC benefits by the teen mother the value is for the year of the birth of the child. For this last group, the average AFDC maximum benefit is \$527; the standard deviation is \$111, which the weighted average is \$557 and the standard deviation is \$371.

## V. ESTIMATES FROM SEQUENTIAL MODEL

In the estimates below we view the decisions made by a girl as sequential decisions; hence, the decision to receive welfare benefits subsequent to an out-of-wedlock birth is made after the birth occurs, and the girls making the decision are a select group of the entire sample of young women. Both the sequential nature of the decision process and the selectivity process affecting the sample of women for whom the choice is relevant are reflected in the model. Moreover, because the factors that determine the income-to-needs ratio of the family in which the girl grows up are likely to be the same factors that influence both the girl's fertility and subsequent welfare reciprocity decisions, an instrumental variable estimate of the family's average income-to-needs (welfare) ratio is entered in the fertility and subsequent welfare receipt equations.

In Table I, we present the ordinary least squares estimate of the determinants of the average welfare ratio of the family in which the girl grew up. The signs of the estimated coefficients are expected, and most of the relevant variables are statistically significant.

In terms of background variables, education of parents, especially the father's, shows the expected positive association. Race (black) has the expected negative sign, and is also significant. The other included background variables also have the expected and significant association—negative for poor grandparents, head foreign born, and years head was disabled; positive for years lived in an

urban area (with high costs of living), negative for years in South (with generally lower wage rates and costs of living). The negative coefficient on number of siblings suggests that even after using an equivalence scale, larger families have less income relative to needs than do smaller families (or that the equivalence scale does not adequately capture economies of scale). For the family stress variables, years with one parent has the expected negative (and significant) association. County median income—measured in a single year—has a positive but not quite significant association, reflecting this rather poor measurement of neighborhood income. The county unemployment rate—measured over ages 6 to 15—has the expected negative sign but is also not significant. Finally, state welfare generosity is positive and significant. This variable may also proxy for relative wealth, income, and cost of living of a state.

Table 2 shows the maximum likelihood estimates for the teen out-of-wedlock birth and subsequent welfare receipt equations, estimated sequentially in a bivariate probit model. The variable representing the economic resources available to the girl while she was growing up—the average welfare ratio—is entered as a predicted value from the estimated equation shown in Table 1. As expected, the predicted average welfare ratio has a negative (though not significant) relationship to the out-of-wedlock birth outcome. The variables that are significant (or nearly significant, in the case of household moves) include all three included family stress variables—with the expected signs; positive for disruptive events such as family geographical moves, parental separations and divorce, and negative for parental remarriage. Mother's education is also significant with the expected negative relationship, while race—being Black—has a large positive and significant relationship. Having a religion is negatively and significantly related to having a teen out-of-wedlock birth. None of the community variables (including welfare generosity) are significant and the bad neighborhood variable has an unexpected sign. A measure of opportunity cost—the county unemployment rate—is not at all significant, while living in a urban area (which may proxy for the degree of stigma costs associated

with a teen nonmarital birth and/or tastes) has a positive and significant association with the probability of a teen out-of-wedlock birth. The variable indicating whether or not the teen's mother had an out-of-wedlock birth is positive, but is not significant. Similarly, whether the parents of the teen received AFDC benefits while the daughter was growing up is not significant. The number of siblings, another possible taste factor as well as indicator of parental time spent with the child, has a positive association with early nonmarital fertility, though it is not significant (t-statistic = 1.18).

The results for receipt of welfare benefits conditional on having a teen out-of-wedlock birth are generally expected, and several of the coefficients are statistically significant. As expected, the predicted average welfare ratio has a negative and significant relationship with the teen's receipt of welfare (t-statistic = 2.3). Being black has a positive relationship with welfare recipiency, but is not at all significant. Other significant variables are whether the teen lived in the South, parental welfare recipiency, and household moves. Living in the South during ages 14-17 is negatively associated with receipt of welfare benefits reflecting in part the significantly lower AFDC benefits in these states. The receipt of welfare benefits by the teen's parents (primarily, mother) while she was growing up has a large positive and significant (at the 10% but not the 5% level) relationship to the teen's receipt of welfare, providing support to the "intergenerational welfare recipiency" conjecture. Geographical relocation, and the stress associated with moves, is positively and significantly associated with the receipt of welfare. The age of the mother of the teen when she first gave birth is negatively associated with the probability of receipt of welfare benefits by the teen daughter, but is not significant. Similarly, a number of variables expected to be associated with the receipt of welfare -- loss of a grade in school, having independent living status, and the status of the occupation of the family head -- have the expected sign but are not significant. Finally, mother's education shows the expected negative association with welfare recipiency, but has no statistical significance. The variable

included to test for the role of generosity of welfare benefits is not at all significant, and has an unexpected sign. Inclusion of the Living in the South variable contributes to this result.

These estimates are derived using a bivariate probit model. The test for the simultaneity of the model is positive and significant (t-statistic = 4.73), providing evidence in favor of this simultaneous specification of the model which treats the decisions as sequential--first, the probability of having a teen out-of-wedlock birth and second, conditional on having such a birth, whether to apply for and receive welfare benefits.<sup>3</sup> The model works well in predicting teen out-of-wedlock births. While the actual percentage with a birth is .146, our model applied to individual data predicts an identical average probability. The model also accurately predicts the receipt of benefits. The actual percentage receiving benefits (among those with a teen out-of-wedlock birth) is .70; our predicted average probability after correcting for selectivity is .69.

## VII. SIMULATED IMPACTS OF INDEPENDENT VARIABLES

Table 3 estimates the effect of the independent variables on both teen nonmarital birth decisions, and on the subsequent decision to receive AFDC benefits. The variables selected are those which might be responsive to policy: welfare generosity, geographic moves, parental separations, reduced poverty and increased mother's education.

Increasing the educational attainment of parents would appear to have an important effect in reducing the prevalence of teen out-of-wedlock births. We estimate that if all mothers of these teenage girls had completed high school, the probability their daughters would have a teen out-of-wedlock birth would be reduced by 46 percent; the probability that they would, subsequent to a birth, receive welfare benefits is reduced by 18 percent. These estimates should be interpreted cautiously, as they neglect the unmeasured factors which explain school completion. They do, however, suggest important pay-offs to increasing education, beyond those of higher market productivity and wages.

Alternatively having a mother who received welfare benefits at some point while the child was 6-15 (or until the daughter's fertility in the receipt equation) increases both the probability of a teen out-of-wedlock birth and the probability of applying and/or receiving welfare benefits.

Increasing income via 1) increasing the predicted welfare ratio by 20 percent, or 2) eliminating poverty (increasing all predicted welfare ratios below one to one) shows a small negative influence on both teen out-of-wedlock births and receipt of welfare benefits conditional on such a birth. In all cases the elasticity is small--but negative. Increasing income via increasing welfare generosity works instead to increase both teen out-of-wedlock births and recipiency of welfare benefits. Our point estimate is that a 20 percent increase in welfare generosity across all states would increase the probability of teen births by nearly as much 16 percent--and receipt by about 11 percent. (These should be interpreted cautiously for the coefficients are not statistically significant.)

Another variable that shows a major impact on the probability of a teen out-of-wedlock birth is parental separation. Our simulations suggest that if all parents of teenage girls in the sample were to separate an additional time while the daughter is 6-15, the probability their daughter would have a teenage out-of-wedlock birth goes up by nearly 75 percent! The reverse--a reduction in separations by one--has a much smaller influence since only families that had at least one separation are affected by the reduction. Finally, geographic moves are predicted to have influence on both teen out-of-wedlock births and receiving welfare benefits, although the magnitude is small. The effect of increasing moves by one is about an 8 percent increase in the probability of a teen girl having an out-of-wedlock birth, and a 6 percent increase in the probability of welfare receipt conditional on having an out-of-wedlock birth.

These simulations then suggest a substantial response of teen nonmarital fertility and welfare receipt behavior to changes in economic circumstances, family stress, and parental education.

## VIII. CONCLUSIONS

In this paper we present bivariate probit estimates of the correlates of teen nonmarital births and welfare reciprocity for our sample of young women. Controlling for the large number of determinants included in the model, being black is positively associated with the probability of a teen nonmarital birth. This is consistent with prior research and suggests that the model be run separately for nonblacks and blacks. However, in testing our sample for differences between nonblacks and blacks, we cannot reject the hypothesis that the subsamples were structurally the same even at the 20 percent confidence level.<sup>6</sup>

The negative sign of the predicted average income-to-needs ratio of the family in which the girl was raised indicates that the teen out-of-wedlock birth decision is associated with the economic status of the family, even when a substantial number of other variables are controlled for. Parental education, which is itself an important determinant of the economic status of the family, is one of these important control variables. The educational background of the mothers of the young women in our sample is negatively and significantly related to the probability that their offspring will have an out-of-wedlock birth. The sign for the religion variable is negative and significant, and this result is also consistent with other literature. The number of siblings of the teen is positively but not significantly related to the chances that she will have a nonmarital birth.

The variables indicating stress in the family—separation/divorce, remarriage, or change in geographic location—all have a large and statistically significant effect (except for moves) on the probability that the teen will have a nonmarital birth, and the signs are all expected. Those family changes indicating disintegration or dislocation tend to increase the probability of having a birth out-of-wedlock as a teenager, that change suggesting restabilization (the remarriage of a single mother or father) reduces the probability chances of having a nonmarital birth. A girl who lived in a family which ever received AFDC benefits (by age 15) has a higher probability of having a teen out-of-

wedlock birth, but the variable is not significant. The generosity of the welfare benefits in the state in which the girl resided while she was growing up has a positive sign, but is also not statistically significant.

Our estimates of the determinants of the probability that a teen who has given birth out-of-wedlock will receive AFDC benefits subsequent to giving birth suggest that being black increases the probability; however, it is not significant. The income of the family in which the girl grew up has a negative effect on the probability that she will choose to go on welfare, and it is significant. A measure of wealth — the prestige of the head of household's job — has the expected sign but is not significant. There is evidence that having a mother who has received AFDC benefits before the daughter gave birth increases the probability that the nonmarried daughter will choose welfare reciprocity. The generosity of the welfare benefits in the state that the girl resides shows no relationship to being a welfare recipient, but a variable for living in the South, which has the lowest welfare benefits in the nation, is negative and statistically significant. The family stress variable, geographic moves, is positively related to the probability that the girl will choose welfare reciprocity, and is statistically significant. Finally, variables indicating whether the teenmother separated from her parents and whether she lost a grade in school have the expected signs but are not significant.

The simulations highlight the potentially important role of parental education and separations on teenage behavior. They suggest that policies that are successful in reducing the incidence of female high school noncompletion could reduce the teen out-of-wedlock birth rate of by the next cohort of young women. Finally, they suggest that parental separations and geographic moves appear to create family-based stresses that may increase teenage out-of-wedlock births—even after controlling for income, race, region, years lived with one parent and parents education.

*Parents' education  
and family structure  
affect teen behavior  
and welfare receipt*

## Notes

<sup>1</sup>Only 12 females in the sample had a birth prior to age 15 (only 1 prior to age 14).

<sup>2</sup>We thank Greg Duncan for helping us in defining this variable.

<sup>3</sup>The parents' education and religion variables were measured in 1968, the first year for which this information was available on PSID files. At this date, the children's ages ranged from 0 to 6 years. The questions were asked of the current family head and wife. In most cases information was obtained from the child's parents, but in some cases the information would describe a stepparent or other family member. If the child was in a single-parent home in 1968 (usually female-headed), there would be no information for the second parent. A dummy variable, one parent = 1, was created and assigned to these observations. If the child lived with grandparents or other nonparents in 1968, and no information is available on either parent, a dummy variable, no parents = 1, was created and assigned.

<sup>4</sup>We thank Robert Moffitt and Peter Gottschalk for making these available to us.

<sup>5</sup>Estimating two separate probit equations, one for out-of-wedlock birth on the entire sample and one for welfare reciprocity conditional on such a birth ( $N = 130$ ) show generally similar results. The exceptions in the out-of-wedlock birth equation are: 1) number of siblings is positive and significant (t-statistic = 1.67); 2) the actual welfare ratio is used and is negative and statistically significant (t-statistic = 2.09) and 3) geographic moves are positive and significant (t-statistic = 1.70). For the reciprocity equation the exceptions are generally reduced t-statistics. The similar pattern provides reassurance on the robustness of our results.

<sup>6</sup>We also attempted to run this test for the SEO and random subsamples. In this case, we have difficulty obtaining convergence of the random subsample but a slightly modified specification suggests we could not reject the hypothesis of identical structures at the 1 percent confidence level, but could at the 5 percent level.

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**Table 1**

OLS Regression for Family Welfare Ratio  
N=892

| VARIABLES   | Coefficient       | t statistic |
|---|-------------------|-------------|
| <u>Background</u>   |                   |             |
| Race (Black = 1)  | -0.36             | -3.06*      |
| Catholic  | 0.39              | 2.12*       |
| Protestant  | 0.10              | 0.64        |
| Jewish  | 2.89              | 6.38*       |
| Number of Siblings  | -0.25             | -8.95*      |
| Dad High School   | 0.36              | 2.96*       |
| Dad Some College  | 1.16              | 6.42*       |
| Dad College Grad  | 1.58              | 8.45*       |
| Mom High School   | 0.19              | 1.86**      |
| Mom Some College  | -0.15             | -0.86       |
| Mom College Grad  | 0.78              | 3.02*       |
| One Parent 1968   | -0.14             | -0.91       |
| No Parent 1968  | 0.12              | 0.50        |
| Head Foreign Born   | -0.50             | -1.52       |
| Years in SMSA   | 0.03              | 2.15*       |
| Grandparents Poor   | -0.14             | -1.54       |
| Years Head Disabled   | -0.06             | -3.49*      |
| Years Lived in South  | -0.02             | -1.88**     |
| <u>Economic and Family Stress</u>                                   |                   |             |
| Years Lived with 1 Parent   | -0.07             | -4.49*      |
| <u>Community Economic and State Welfare Generosity</u>              |                   |             |
| Median Income, County of Residence                                  | 0.04 <sup>?</sup> | 1.52        |
| Unemployment Rate of County   | -0.03             | -1.08       |
| <u>Maximum AFDC, Food Stamps and Medicaid Expenditures in State</u> |                   |             |
|   | 0.001             | 2.41*       |
| Constant  | 2.18              | 4.97*       |
| R Squared   | 0.55              |             |

Note: \* Statistically significant at the 5% level of significance.

\*\* Significant at the 10% level of significance.

Table 2

Bivariate Probit Results: Teen Out-of-Wedlock Birth  
and Receipt of Welfare Benefits Conditional  
on an Out-of-Wedlock Birth

| Variables  | Out-of-Wedlock Birth<br>N=892 |             | Receipt of Welfare Benefits<br>N=130 |             |
|--|-------------------------------|-------------|--------------------------------------|-------------|
|  | Coefficient                   | t-Statistic | Coefficient                          | t-Statistic |
| <b>Background</b>  |                               |             |                                      |             |
| Race (Black = 1)   | 0.42                          | 2.11*       | 0.24                                 | 0.60        |
| Religion   | -0.40                         | -2.06*      |                                      |             |
| No. of Siblings  | 0.06                          | 1.18        |                                      |             |
| Mother's Age at First Birth                                      | -0.01                         | -0.54       | -0.01                                | -0.56       |
| Mom High School Grad   | -0.61                         | -3.57*      | -0.15                                | -0.40       |
| Years in SMSA  | 0.03                          | 1.81**      |                                      |             |
| Mom Out-of-Wedlock Birth   | 0.83                          | 0.85        |                                      |             |
| Lived in South 14-17   |                               |             | -0.59                                | -1.84**     |
| Split-off from Family  |                               |             | 0.05                                 | 0.28        |
| Lost a Grade Level   |                               |             | 0.27                                 | 1.10        |
| Control for Missing Grade  |                               |             | 0.05                                 | 0.18        |
| Occupation of Head   |                               |             | 0.10                                 | 1.14        |
| <b>Economic and Family Stress Variables</b>                      |                               |             |                                      |             |
| Predicted Welfare Ratio  | -0.16                         | -1.09       | -0.51                                | -2.30*      |
| Parental Welfare Reciprocity ++                                  | 0.15                          | 0.97        | 0.46                                 | 1.82**      |
| Household Moves  | 0.06                          | 1.50        | 0.11                                 | 2.06*       |
| Parental Separations   | 0.49                          | 3.55*       |                                      |             |
| Parental Remarriages   | -0.48                         | -2.15*      |                                      |             |
| <b>Community Economic and State Welfare Generosity Variables</b> |                               |             |                                      |             |
| Bad Neighborhood   | -0.04                         | -0.86       |                                      |             |
| Unemployment Rate of County                                      | -0.006                        | 0.14        |                                      |             |
| State Welfare Generosity +                                       | 0.0004                        | 0.77        | -0.0004                              | -0.40       |
| Constant   | -0.05                         | -1.60       | -0.17                                | -0.19       |
| Rho  | .85                           | 4.73*       |                                      |             |
| Log-Likelihood   | -357.55                       |             |                                      |             |

Note: \* Significant at 5% level.

\*\* Significant at 10% level.

+ Measured over ages 6-15 in Out-of-Wedlock Birth equation but at age when daughter gave birth in Reciprocity equation.

++ Measured over ages 6-15 in Out-of-Wedlock Birth equation but from age 6 until daughter gave birth in Reciprocity equation.

**Table 3**

Simulations Based on Estimates in Table 2

|   | <u>Teen Out-of-Wedlock Birth</u> |                             | <u>Receipt of Welfare Benefits</u> |                             |
|---|----------------------------------|-----------------------------|------------------------------------|-----------------------------|
|   | Probability                      | Percentage Change from Base | Probability                        | Percentage Change from Base |
| Base                                    | 0.146                            |                             | 0.693                              |                             |
| 20% increase in predicted welfare ratio | 0.137*                           | -6.2                        | 0.637                              | -8.0                        |
| Eliminate poverty                       | 0.142*                           | -2.6                        | 0.663                              | -4.3                        |
| All moms are high school graduates      | 0.078                            | -46.3                       | 0.567*                             | -18.1                       |
| State welfare: 20% increase             | 0.169*                           | +15.9                       | 0.771*                             | +11.4                       |
| Move + 1                                | 0.157                            | +7.8                        | 0.733                              | +5.8                        |
| Move - 1                                | 0.138                            | -5.8                        | 0.661                              | -4.5                        |
| Separation + 1                          | 0.255                            | +74.4                       |                                    |                             |
| Separation - 1                          | 0.121                            | -17.1                       |                                    |                             |
| Parents receive AFDC                    | 0.161*                           | +10.3                       | 0.777                              | +12.2                       |

a Simulation estimates based on t-statistics less than 1.5.



EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

June 28, 1993

MEMORANDUM FOR CAROL RASCO  
BRUCE REED

FROM: Isabel Sawhill 

SUBJECT: "Good conduct" waivers

At our meeting with the President on June 18, he seemed quite interested in having a list of "good conduct" proposals and a strategy for dealing with them. The attached list was put together by Richard Bavier, our most knowledgeable career person on this set of issues. Waivers intended to promote training or employment are not included, but note that "good conduct" policies generally are just one element in larger demonstrations wherein policies to promote employment dominate.

Also attached, for your information, is an article I wrote last year on this topic. It suggests some criteria against which we might judge such proposals, such as effectiveness and fairness. It also argues that (within limits) the tax-paying public has a right to insist on "good conduct" as a condition of providing assistance, even when there is no guarantee that this will change people's behavior. I think that the President is right that we need a lot more attention to this set of issues, and would be happy to work with you to structure some additional staff work, and discussions among ourselves and with him, if that would be appropriate.

Attachment

cc: Alice Rivlin  
Elaine Kamarck  
Mary Jo Bane  
David Ellwood  
Richard Bavier

June 28, 1993

Good-conduct Policies in Welfare Demonstrations

To be included on this list of State-designed good-conduct welfare policies, a policy must aim to promote desirable behavior among welfare recipients beyond the usual areas of employment and child support. All of the policies included are part of State demonstrations with waivers under section 1115 of the Social Security Act. Typically, the State demonstrations include other elements besides these good-conduct policies, but those other elements are not described here.

| <u>State</u>  | <u>Policy</u>   | <u>Consequence</u>   |
|---|---|--|
| Arkansas<br>(received by HHS<br>1/14/93)  | <u>Family cap</u> - limit AFDC benefit to the number of children in the family at the time of initial certification. (Some exceptions permitted.) | Bearing additional children while on AFDC reduces per-capita income of family. |
| California<br>(waivers approved but<br>good-conduct elements<br>of demo defeated as<br>ballot initiative) | <u>Family cap</u> - limit AFDC benefit to the number of children in the family at the time of initial certification.                              | Bearing additional children while on AFDC reduces per-capita income of family. |
|   | Require minor mothers to <u>live with their parents</u> . <sup>1</sup>  | Family is otherwise ineligible for AFDC.                                       |

---

<sup>1</sup> This policy is an option under the Family Support Act of 1988, and does not require a waiver. However, several States, including California, Vermont, and Wisconsin, will implement the policy as part of a broader welfare reform demonstration. Delaware, Maine, Michigan, Nevada, the Virgin Islands, and Puerto Rico will implement the policy statewide without waivers.

| <u>State</u>   | <u>Policy</u>  | <u>Consequence</u>  |
|--|--|---|
| Georgia<br>(approved 11/17/92)                             | Require AFDC parents to <u>immunize</u> their pre-school children.   | Failure to comply leads to a sanction process that may result in removal of the parent's needs from the AFDC grant (e.g., a three-person family would receive a two-person family grant). |
|  | <u>Family cap</u> - No AFDC increase when a child is born to a family on the rolls for 24 months or longer.                      | Bearing additional children while on AFDC reduces per-capita income of family.  |
| Illinois<br>(pending in HHS, State is rethinking proposal) | Incentive payment to <u>honor roll students</u> in AFDC families.  | Increased family income.  |
| Iowa<br>(received by HHS 4/29/93)                          | Do not count as income deposits to <u>savings accounts</u> when purpose is for education, home ownership, and business start-up. | Increased family resources and financial progress towards one of permitted objectives.  |
| Maryland<br>(approved 6/30/92)                             | Preschool children of AFDC recipients must receive EPSDT <u>health screening and services</u> .                                  | Sanction of \$25/month for each child not receiving screening.  |
|  | School-age children must receive annual <u>preventive health check-up</u> .  | Sanction of \$20/year for each parent or child not meeting attendance standard.   |
|  | <u>Learnfare</u> - School-age children must meet school <u>attendance</u> requirements.  | Sanction of \$25/month for each child not meeting attendance standard.  |
|  | Pregnant women must receive regular <u>prenatal care</u> .   | Sanction of \$14/month.   |

| <u>State</u>                           | <u>Policy</u>   | <u>Consequence</u>   |
|--|---|--|
| Missouri<br>(approved 10/26/92)        | <u>Learnfare</u> - School-aged AFDC parents and dependent children must meet high-school attendance requirements.                         | Failure to comply leads to a sanction process that may result in removal of the student's needs from the AFDC grant (e.g., a three-person family would receive a two-person family grant). |
| Ohio<br>(approved 1988)                | <u>Learnfare</u> - Families of school-aged AFDC children receive bonus for good attendance, reduced payment for failing to meet standard. | Higher or lower grant based on attendance.   |
| Oklahoma<br>(received by HHS 12/28/92) | <u>Learnfare</u> - AFDC children aged 13-18 required to remain in school until graduation or a GED.                                       | Failure to comply leads to a sanction process that may result in removal of the student's needs from the AFDC grant (e.g., a three-person family would receive a two-person family grant). |
| Oregon<br>(approved 7/15/92)           | Require participation in <u>mental health or substance abuse treatment</u> programs if needed to progress toward self-sufficiency.        | Failure to comply leads to a sanction process that may result in removal of the parent's needs from the AFDC grant (e.g., a three-person family would receive a two-person family grant).  |
| Vermont<br>(approved 4/12/93)          | Require <u>minor parents to live with their parents</u> or with other approved adult supervision.   | Family is otherwise ineligible for AFDC.   |

State

Wisconsin  
(several approved in  
1987 and 1992)

Policy

Require minor parents to live with their parents.

Family cap - reduce increase for additional children born while parents are on AFDC.

Do not count up to \$10,000 savings as available resources if it is to be used for approved purposes.

Leamfare - Children in AFDC families must meet attendance requirements.

Consequence

Family is otherwise ineligible for AFDC.

Bearing additional children while on AFDC reduces per-capita income of family.

Increased family resources and financial progress towards one of permitted objectives

Failure to comply leads to a sanction process that may result in removal of the student's needs from the AFDC grant (e.g., a three-person family would receive a two-person family grant).

P. 02

Articles in Upcoming Issues of  
*The Responsive Community*

Beyond Tele-Democracy  
*James Fishkin*

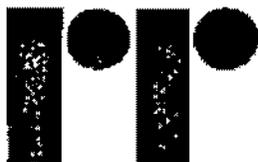
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*Mark Neuman*

Social Responsibility and Social Accounting:  
Time for a New Ledger  
*Neil Gilbert*

Communitarian Search and Seizure  
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The Legitimacy of Moral Education  
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JUN-16-93 WED 14:53



## COMMUNITARIAN WELFARE

### The New Paternalism: Earned Welfare

ISABEL V. SAWHILL

In the early 1990s, a new debate has broken out about what welfare recipients should and should not be expected to do. In part, it is prompted by a fiscal crunch at the state level that has given new impetus to a whole new set of proposals to link welfare benefits to 'good' behavior—the so-called new paternalism. In Wisconsin and Ohio, for example, welfare benefits may be withheld if recipients or their children fail to attend school on a regular basis. The Republican governor of Wisconsin has proposed both to cap benefits after the first child and to provide a marriage bonus. In California, another Republican governor, Pete Wilson, has announced a ballot initiative that would not only cut welfare benefits by up to 25 percent, but would among other things, deny extra benefits to those who have additional children while on welfare and require teenagers on welfare to live with a parent or guardian. New Jersey recently passed a statute, endorsed by both Democrats and Republicans, that disallows extra benefits for mothers who have children while on welfare but couples this with job training and more generous benefits for those who marry or go to work. And the Democratic governor of Maryland has joined the movement by proposing a cut in welfare benefits for those who fail to get preventive health care, pay their rent regularly, or keep their children in school.

The reaction to these proposals is at least as interesting as the measures themselves. Critics, including many experts, have noted the sometimes punitive nature of these "reforms," have worried about their possibly racist overtones, and have scoffed at the social engineering involved. Defenders, including most ordinary middle-class citizens, see such proposals as eminently fair and as a construc-

tive response to the self-destructive behaviors that give rise to much poverty and welfare dependency in the first place. Who is right, and how should we evaluate these proposals?

#### SOME HISTORY

The debate is not a new one. When the architects of the Social Security system in the 1930s decided that most of its benefits would be based on a history of individual work-related contributions, they made an exception for payments to widows and their children. What began as a small program of aid to dependent children—one that was supposed to fade away when their widowed mothers again became some breadwinners' dependents—mushroomed into a major part of the social safety net as divorce and out-of-wedlock childbearing swelled the ranks of eligible single parents. While few questioned the appropriateness of such assistance during the 1960s and 1970s, by the 1980s these changes in family composition, and a concomitant increase in the welfare rolls, had etched themselves on the national consciousness, setting the stage for a conservative backlash. And a backlash there was. The Reagan administration, with the help of its conservative allies in the intellectual community, began to articulate a new view of the welfare system, arguing that it was the cause of poverty and not the solution. Mainstream scholars countered that there was little or no empirical evidence to support this charge.

By the end of the decade, the debate seemed to have reached a new equilibrium with the passage of the Family Support Act of 1988. This legislation emphasized the responsibility of fathers to pay child support and of mothers to participate in education and training that would move them toward self-sufficiency. At the same time, the government committed itself to funding the training and other services that would make self-sufficiency possible. Welfare in return for work, or the willingness to prepare for work, was the new rule. With so many middle-class mothers in the work force, taxpayers were less willing to pay low-income mothers to stay home with their children. A welfare system out of step with middle-class norms and behaviors could not survive. The new paternalism of the 1990s is also an attempt to bridge this gap.

## **MOST BEHAVIOR IS DIFFICULT TO MODIFY**

One reason supporters of the Family Support Act had prevailed was because there was evidence that training programs for welfare mothers worked. This is much less clear in the case of the new proposals. Several studies suggest that decisions to marry and to have children are, at best, only modestly affected by the kinds of incentives one can build into the welfare system. Decisions to work or to stay in school may be somewhat more open to such influence.

The effects on behavior also depend on the magnitude of the incentive provided and the way in which it is delivered. A big enough incentive delivered in a user-friendly and supportive fashion can have an impact. There are numerous examples of programs that have changed people's lives, among them the "I Have a Dream" program that promised college tuition to those who finished high school, the welfare experiments of the early 1980s, and even (some claim) a Planned Parenthood program in Colorado that paid teenagers not to become pregnant. Each of these programs uses carrots rather than sticks and combines rewards with heavy doses of counseling and other services.

On the other hand, a legislatively mandated evaluation of the Wisconsin Earnfare program, designed to improve school attendance of family members on AFDC, "did not find improvements in attendance" in high school or middle school students studied. In a congressional hearing presided over by Senator Daniel Patrick Moynihan, a diverse panel of welfare experts all agreed that government attempts to change personal behavior, such as childbearing or marriage, with a system of rewards and punishments probably would not do much. As one panelist argued, "The most likely effect is no effect at all. We have every reason to believe that recipients will resist changes in their personal behavior."

All said and done, while we don't know everything we should about the potential of these and other interventions to move people toward self-sufficiency, it is clear that many of the simplistic economic incentives that the public believes will change people's behavior may not.

## **PUBLIC ATTITUDES MATTER**

If the public were convinced of this, how much difference would it make? Would more exposure to information about the relationship between welfare benefits and marriage cause the citizens of California to reject their governor's ballot initiative? I doubt it: "Effectiveness" is not the only issue here. Morality, or conformity with social norms, also matters. The public wants to distinguish between the deserving and the undeserving poor, and to set conditions on the use of its "hard-earned" money. (Paul Taylor of the *Washington Post* reports that when President Bush condemned welfare dependency in his 1992 State of the Union Address, he received his second-highest marks of the evening from a focus group armed with devices that provide instant feedback.) Whether one likes it or not, this is a fact of political life. Community expectations and values are registered through the political process and cannot be ignored. Advocates for the poor have long had to live with the reality that single mothers are considered more deserving than equally poor men, and that assistance for the elderly poor is more popular than for their younger counterparts.

Such distinctions apply not just to who deserves assistance but also to the form in which such assistance is provided. The public is willing to provide noncash benefits to the poor, such as food stamps, even though there is no evidence that such earmarked benefits increase spending on food. Indeed, providing cash instead of food stamps would be administratively cheaper, provide more freedom of choice, and be less demeaning to the poor. But liberals have long since learned that to cash out the food stamp program would almost certainly diminish the total amount of assistance available. In the same way, they may come to accept that conditioning assistance on behavior may be the political price they have to pay for continued support of the welfare system, even when they disagree with the moral premises of the policy itself.

What I am asserting here is the community's right (subject to constitutional limitations) to express its values through the political system. If its sentiments and beliefs are wrongheaded, then it is up to those who disagree to change rather than to override public opinion.

In recent decades, those liberals who have aggressively asserted individual rights over community concerns have ended up alienating much of the public. In his book, *Liberal Purposes*, William Galston has articulated the problem well:

In the past generation...important forces within both American academia and public life have embraced understandings of liberalism perceived, with some justification, as hostile to traditional moral understandings. The result has been a disaster for progressive politics. If self-styled liberals cannot accommodate, and recognize their dependence on, the moral restraints espoused by ordinary citizens, liberalism cannot regain in practice the general acceptance needed to guide public life in a constitutional democracy.

Liberals are aware of the erosion of public support for progressive policies, but their most common reaction has been an attempt to rebuild support by emphasizing more universal policies, rather than by accommodating the moral sensibilities of the middle class. Social Security is the historical paradigm of a universal program that has done more to help the poor than all of the means-tested programs put together, but which has bedrock public support because of its inclusiveness. Proposals for universally subsidized day care, national health insurance, and tax credits for families with children are the modern analogues. The problem is that such programs are enormously expensive. Moreover, the popularity of Social Security may have as much to do with its contributory character as with its broad coverage. Even if we could afford a guaranteed income for every American along the lines proposed by George McGovern, it would almost certainly not pass muster. Public support cannot be bought by delivering assistance to everyone. It can be bought by making such assistance conditional on work or other widely approved behaviors.

Political support for the new paternalism is not the only issue. There can be such a thing as too much government by public opinion. The popular will should be filtered through the legislative process. The fact that Governor Wilson's proposals are being put on the ballot rather than debated in the legislature is significant, because it eliminates the kind of considered judgments and education of the citizenry by its elected representatives that we should expect in a democracy. The voters are currently not as well informed as the

people they elect. For example, the possibility that the public expects far more behavioral change from the new paternalism than it can possibly deliver has already been noted. Moreover, the tensions between individual rights and community concerns are real and cannot be resolved except by considering each case on its merits and evolving reasonable compromises.

#### INDIVIDUAL LIBERTIES MUST BE PROTECTED

Another reaction from right-oriented liberals has been to conjure up worst-case scenarios and anecdotes as arguments against the new paternalism. It is not hard to paint a portrait of America circa 1994 that would give George Orwell a run for his money: welfare mothers being forced to have abortions or sterilizations because otherwise they would be denied extra money for additional children; parents being blackmailed by their potentially errant children into being appropriately submissive behavior ("I will buy you a gun if you go to school tomorrow"); teenage mothers being forced to live with abusive parents as a condition of receiving assistance, and so forth. In the end, we must decide which is the greater threat to democracy and the individual freedoms that democracy promises: occasional specific abuses of the coercive power of the state by those who support reasonable versions of the new paternalism or a broader backlash against the entire system fermented by the David Duke of the world and fueled by resentment of the lifestyles of the poor. Specific abuses can be curtailed by administrative safeguards (such as exceptions, in cases of conflict or abuse, to the rule that teen mothers must live with a parent). But the only defense against a populist backlash is to align policy with mainstream values.

#### PATERNALISM SHOULD BE EVENHANDED

One issue is fairness. If paternalism is good for the poor, it should be good for the rich and the middle class as well. Indeed, if it is not applied in an evenhanded way, then charges of racism, classism, and sexism carry more weight. If tax policies are moving in the direction of making allowances for family size among the working poor and the middle class, as they seem to be these days, then denying the welfare

population equal treatment seems unfair. Or, to take another example, imagine denying college aid from public sources to middle-class kids who cut their classes or Medicare to elderly citizens who don't get annual checkups. The precise analogies to the new paternalism may seem a bit farfetched, but the general point is not. Proposals to tie public health insurance to personal lifestyle (e.g., smoking) or college loans from public sources to academic performance in high school have as much merit as the new paternalism for welfare recipients. Imposing similar conditions only on the poor smacks of just the kind of tyranny of the majority that a rights-based liberalism correctly warns us against.

#### INCENTIVES NEED TO BE ACCOMPANIED BY SPECIFIC FORMS OF HELP

One way to guard against discriminatory policies is to apply the Rawlsian test—that is, to imagine oneself on welfare and to ask what conditions one would consider fair. As far as it goes, this is a reasonable criterion. The problem I see is that most of us who have achieved a middle-class lifestyle or better have a tendency to imagine that all our normal cognitive and psychological resources would be preserved intact if we were poor, and that all we would lack is money. But poverty often is corrosive, not only because of material deprivation, but more important, because it affects a person's self-image and sense of control. Policies should not assume a capacity to adapt immediately to middle-class norms on the basis of purely economic incentives. People need to be helped to take control of their lives, and not simply rewarded for doing so. If work is the goal, then training and assistance with finding a job may be the means to make this possible. If reducing teenage childbearing, and the welfare dependency that so often follows, is the goal, then making family-planning services more accessible, and poor women's life prospects more promising, may be essential. Moreover, people should be given opportunities to prove their competence in small increments that, because they are rewarded, are systematically reinforced. As Douglas Besharov of the American Enterprise Institute has emphasized, the behavior that we are trying to achieve needs to be within realistic reach of the recipient, and the incentives that are offered should encourage new modes of

behavior that can be internalized in the long run. He also notes the importance of being able to track the behavior in question. If truancy, for example, can't be accurately monitored by school authorities and reported to welfare offices, then bonuses for school attendance cannot be effectively administered.

#### INNOCENT VICTIMS NEED TO BE PROTECTED

The current welfare system is not neutral; it rewards childbearing. We would not give a welfare family a bigger grant if they went out and bought a car, but we do when they decide to have a baby.

Cars and babies, it will be argued, are different. To begin with, babies are not always planned. However, this is true of much impulsive consumption as well. Beyond this, children are the innocent victims of any curtailment of welfare benefits for larger families. In theory, one can argue that the costs imposed on children penalized under such a regime may be more than compensated for by the reduction in the number of children growing up in poor families. After all, we endanger the lives of hostages in order to deter further hostage taking. But if smaller welfare benefits for larger families do little to deter additional childbearing, this argument carries little weight. The costs imposed on children seem too high a price to pay for encouraging more responsible fertility decisions among their parents. We are left, then, with a dilemma. We do not want to reward childbearing among those unable to support their children, but we must reward it in order to protect their offspring. One way out of this dilemma is to link welfare benefits not to the number of children born but to a willingness to use effective family planning.

Seen in this context, the proposal of a Kansas legislator to give extra money to welfare mothers who agree to use Norplant is more reasonable than it might seem at first blush. (Norplant is a new long-term, virtually fail-safe, contraceptive implant that is as safe as the Pill and completely reversible.) Opponents of the plan argue that poor women would need the money so badly that they would, in effect, be coerced into forfeiting their right to have children. But where is the right established to have children at someone else's expense? Many middle- and working-class families are financially

constrained from having additional children, and their paychecks are not adjusted upwards should an unexpected baby arrive on the scene. Should Joe Sixpack be expected to pay for a welfare mother to have two children when, partly because of the taxes he pays, he can only afford one?

If we are serious about protecting innocent victims, we should reward contraception, not penalize children; at a minimum, people should have the means to effectively and safely plan their families.

#### PATERNALISM SHOULD BE USED SPARINGLY

Finally, we would be wise to use behavioral incentives sparingly. The criteria for their use have been thoughtfully laid out by Robert Coodrin in his article, "Permissible Paternalism: In Defense of the Nanny State" (*The Responsive Community*, Vol. 1, No. 3, Summer 1991). Paternalistic policies are justified, he argues, in cases in which the stakes are high and individual preferences are unstable or inconsistent. Take once more the case of early childbearing. The stakes are certainly high both for society and for individual mothers and their children. The public costs of supporting a family begun by a teenager (in present value terms) averaged \$17,000 in 1989. Moreover, the life prospects of both the mother and her children are likely to be constrained. As a result, many women later regret having a baby as a teenager and find it inconsistent with their desire to obtain an education, hold a job, or marry someone other than the child's father. Similarly, surveys show that most welfare recipients want to work and that most drug addicts want to kick their habits. People's behaviors and their deep-seated preferences are not always consistent. Policies that accord with the latter are only paternalistic in the best sense of the word (assuming that people's deep-seated preferences can be reliably known). We understand this in dealing with our own children, especially adolescents, who are the group most at risk of prematurely damaging their lives. Public policies should be based on similar principles. Using the welfare system to get people to pay their rent on time, however, does not seem to meet either the "high stakes" or the "deep-seated preferences" criteria.

#### IN CONCLUSION

In the end, my view is that the new paternalism must be seriously considered because welfare programs that are not consistent with mainstream values will never be politically viable and will certainly not be adequately funded. At the same time, such approaches are only justified under certain conditions. Most important, there must be some evidence that the policies will actually work to change behavior, or that there is a willingness to combine them with services, counseling, or other measures that can help welfare recipients achieve the goals of the program. Otherwise, they are nothing more than a way of pandering to public opinion. In addition, paternalistic policies are likely to be more acceptable and be more appropriate when: (a) they are introduced as a means to reward rather than punish and are not used as a means to balance budgets on the backs of the poor; (b) they are applied in an evenhanded way that does not discriminate against the poor; (c) they are designed in ways that do not produce an infringement of individual liberties or create a new set of innocent victims; and (d) the stakes are high.

In the past, many experts and advocates, because they have largely ignored community values, have failed to develop welfare policies that are effective, respectful of individual rights, and acceptable to the public at large. This is no mean task. But if we fall now, a new paternalism that does not work, or is patently unfair, is not only what we will get but also what we will deserve.

#### Need—Marriage?

The U.S. Post Office is providing Americans with 5 million post cards to determine which of two pictures of Elvis Presley is to be used in honoring him on his stamp. In view of his conspicuous consumption of drugs, we suggest you vote "none of the above."