Adolescent Sexuality and Parent-Adolescent Processes: Promoting Healthy Teen Choices*

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Trends in adolescent sexual health, the relation between parenting and adolescent sexual outcomes, and adolescent sexuality interventions with a parent component are reviewed. American adolescents have higher rates of unprotected sex and STI contraction than adults and nine times the teen pregnancy rate of their European counterparts. Parenting efforts are related to adolescent sexual behavior. The review of 19 relevant programs supports the incorporation of theory and the ecological model in program design and evaluation.

The health of adolescents is greatly determined by their behavior (Adams, Schoebom, Moss, Warren, & Kann, 1992; Alan Guttmacher Institute [AGI], 1994; Chassin, Presson, Sherman, & McConnell, 1995; U.S. Department of Health and Human Services [DHHS], 1998b). An important and complex area of adolescent behavioral health is sexuality. Issues of experience and activity include the timing of first intercourse, number of sex partners, contraceptive use, pregnancy, and sexually transmitted infections (STIs). Each of these outcomes vary within and between ages, gender, race (Children's Defense Fund [CDF], 1991), socioeconomic status, and religious groups (Coley & Chase-Lansdale, 1998; Katchadourian, 1990; Miller, 1998).

Complexity is also reflected in the particular influences associated with adolescent sexual activity (AGI, 1994; DHHS, 1995). Neighborhood (socioeconomic status, joblessness), peer (sexually active friends), familial (family instability, single-parent household, sibling sexual activity), and individual characteristics (race, gender, age, pubertal status) have all been associated with adolescent sexual outcomes (see AGI, 1994; Bearman & Brucker, 1999; Brewster, 1994; Brown & Theobald, 1999; Child Trends, 1997; Coley & Chase-Lansdale, 1998; Hogan & Kitagawa, 1985; Miller, 1998; Sucoff & Upchurch, 1998). Given the severity of negative consequences associated with sexual activity, ensuring that youth receive sexuality education is important for healthy development. Researchers have found parents to be the primary sex educators of children (DHHS, 1996), as less than 10% of youth report having had comprehensive sexuality education programs in other settings (Donovan, 1989; Klein & Gordon, 1992). Researchers also suggest that adolescents who feel a personal connection to family are at less risk of participating in risky behaviors, including early initiation of sexual intercourse (Resnick, et al., 1997). Therefore parents as educators, in conjunction with positive family relationships, are essential for healthy adolescent development.

The association of family processes with adolescent sexuality has led to the development of a number of adolescent health promotion programs with a parent component (see Table 1). These programs have goals such as increasing comfort levels when discussing sexual issues, increasing adolescents' and their parents' knowledge and awareness of sexual issues, and preventing adolescent health risks, such as pregnancy and STIs. Although evaluations have been limited, programs that have been evaluated have proven to be somewhat successful.

The purpose of this paper is threefold. First, current trends in adolescent sexual behavior are considered. Next, the associations of family factors and processes with adolescent sexuality are examined. Finally, current adolescent sexuality programs with a family component are reviewed. Recommended directions for future work in each of the three sections are also addressed.

Trends in Adolescent Sexual Behavior

The past four decades have been a period of great change in adolescent sexual activity and its consequences. Adolescents are initiating sexual activity at younger ages (DHHS, 1995), and teen pregnancy rates are now declining since their peak in 1991 (Child Trends, 1997). Important trends in the area of adolescent sexual behavior include sexual experience and activity, pregnancy, and STIs, including the human immune deficiency virus (HIV) and the acquired immune deficiency syndrome (AIDS).

Regarding sexual experience, approximately 12.1% of males and 3.0% of females aged 18–21 reportedly have had sexual intercourse by 12 years of age. The largest increase was among 15-year-old females who reported having sex—a jump from 5% to 25% between 1979 and 1988 (DHHS, 1995). For over 20% of these young women, early sexual initiation (14 years or younger) was not voluntary (Abma, Driscoll, & Moore, 1998; Child Trends, 1997). Early initiation of sexual intercourse (age 14 or younger) has been related to lower contraception use and higher risk of pregnancy (DHHS, 1995).

The likelihood of sexual activity increases with age. Over twice as many 18 to 21 year old adolescents (78.9%) are sexually experienced compared to their 14 and 15-year-old counterparts (31.6%) (DHHS, 1997; DHHS, 1998a). However, the percent of high school students reporting ever having sex declined from 54% in 1990 to 48% in 1997 (Annie E. Casey Foundation, 1999). Data indicate that during the 1990s sexual abstinence increased slightly for males, whereas females reported a slight decrease. In 1995 among sexually experienced adolescents, 27% of females and 37% of males, aged 15–17, reported abstaining from sexual intercourse for the three months preceding the survey. These figures were up from the 1988 percentages of approximately 24% and 33%, respectively. However, supplemental 1997 data from a sexually active, in-school sample of 15–17 year old adolescents indicate that 23% of females and 34% of males

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	Program	Primary Audience	Methods and Format	Evaluation
1.	Can We Talk? (National Education Associ- ation Health Information Network, 1998)	Middle school students and their parents	 Help parents lead activities with children Parenting training: 4- 2 hour sessions Parent teaching youth: 5 activities 	 Are waiting to hear about funding for a Summer 1999 evaluation Focus groups addressed how program implementa- tion could be more effective
6	FACTS and <i>feelings</i> (Jenson, Lee, & Mil- ler, et al., 1993)	7 th and 8 th graders and their par- ents	 7 video tapes 6 newsletters (1 for parents and 1 for teens) Conducted in parents' homes 	 Internal evaluation conducted Participating parents reported greater increase in abstinence values and greater increase in communication frequency and quality than control parents (Miller et al. 1002)
ю.	Girl Talk (Brown, Lowry, & Orr, 1997)	9 to 12 year old girls and their mothers	 4- 2 hour sessions 1 session for moms only 3 sessions for moms and teens "finwoork" for take home 	• 6 month follow-up, informal evaluation found both parents (80%) and girls (45%) reporting an increase in communication
4.	Girl Talk, Too (Adams, S., Lowry, Orr, 1997)	13 to 16 year old girls and their mothers	 5-2 hour sessions for moms and daughters Topics: date rape, peer pressure, communication, and values Homework 	 Internal evaluation focused on participants' satisfaction
5.	Growing Pains: Sex education for parents: A newsletter series (Polulech, & Nuttall, 1988)	Early adolescents and their par- ents		• No information on evaluation was located
Ó.	It Takes Two (Young Women's Resource Center, 1994)	7 th -12 th graders. Parent compo- nent is recommended, but op- tional	• 6 parent sessions primarily to facilitate com- munication between parents and teens	 Consistently demonstrates a positive, short term impact on students Independent evaluation currently being conducted (CA and OH) Parent component has not been evaluated
7.	Mother-Daughter Choices Program (Advo- cacy Press, 1993)	6 th -9 th grade girls and their mothers	 6- 2 hour sessions for moms and daughters 1 session for moms only Workbooks given to teens and their moms Video also available Topics: self esteem, assertiveness, future goals, communication 	 User satisfaction is high for county evaluations, especially for moms Due to cost, the non-profit creator has not done an independent evaluation of the program
×.	Parent-Child Sex Education: A training module (Brown, Downs, Peterson, & Simpson, 1989)	9–12 years and their parents; 13–17 year old and their par- ents	• 5 sessions for pre-teen with parents and 6 sessions for teen with parents (different programs for boys and girls)	 Mathtech, external evaluation (1980–82) Participants reported increase in knowledge and in clarity of values and increased parent-child communication about sexuality
ō	Parents and Pre-Adolescents Can Talk (PACT)—three distinct programs (Gal- lagher, Kohl, & Dover, 1994)	Parents and their $5^{th}-6^{th}$ grade adolescents (9- 90 minute ses- sions for parents and their young teens and 1- 90 minute parent only session)	 Homework for teens and parents Topics: communication, self esteem, decision making, puberty, relationships, and sex roles and exploitation 	 Independent evaluation by Washington State University. Findings included an increase in parent-adolescent communication, adolescent self-esteem, parental sex knowledge, and a decrease in more intimate sexual behaviors for teens
	Parents and Adolescents Can Talk (PACT) (Kohl, Boik, Dover, & Gallagher, 1996) PACT Older Youth Curricula (PACT) (Wil- son, Dover, & Kohl, 1994)	Parents and their 7^{h} - 9^{h} grade adolescents (8- 2.5 hour ses- sions that include both par- ents and their teens) Parents and their 10^{h} - 12^{h} grade adolescents (7- 2.5 hour ses- sions with parent involve- ment)		
10.	Plain Talk (Capello, 1997)	Parents of 10–14 year olds Parents of 12 to 16 year olds Teens may also join group if es- tablished this way	 4-1 hour sessions Topics: boundaries, puberty, and decision making Enhances parent-teen communication 	 Independent evaluator found increase in discussions about AIDS, birth control, and parenting between adolescents and parents Currently being evaluated by Metis (independent)

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	Program	Primary Audience	Methods and Format	Evaluation
11.	Postponing Sexual Involvement (PSI) (Howard & Mitchell, 1997)	Preteens and a special compo- nent for the parents	 4-50 minute sessions (social and peer pressure; problem solving and using new skills) 1-45 to 60 minute booster session 2 sessions for marine (social and mer meet 	 No evaluation information available for parent component
12.	Project Taking Charge (Hunter-Geboy, Lee, Preston, Schultz, & White, 1995)	7 th graders and their parents	 a work of the solving) a work of the solving) a lincludes video segments 6 week curriculum for the 7th graders and 3 parent-youth sessions 	 Participating teens reported increased knowledge about sexuality and greater communication with fa- thers about sexuality Participating parents reported greater knowledge
13.	Responsible Social Values Program (RSVP) (Thoms, 1996)	$6^{\mathrm{th}}\text{-}8^{\mathrm{th}}$ youth and their parents	 5- 1 hour sessions for youth Parents involved in 1 workshop (optional) and with homework (mandatory) 	 about sexuality (Jorgensen, 1991) Evaluation on student portion only External evaluation by Ohio State, Ohio Department of Health Short-term gains in knowledge, values and behaviors
14.	Stay SMART (Skills Mastery and Resis- tance Training)—one component of the SMART moves program that addresses three age groups (6 to 15 years) (Boys and Girls Clubs of America, 1997)	13–15 year olds and their par- ents (optional)	 Multi-focus prevention program targeting al- cohol, tobacco, and other drug use and postponing sexual activity 12-90 minute sessions for youth 4 sessions for parents (optional) 	 toward absumence (with & bitue, 1996) Independent evaluation by Penn State (St. Pierre, et al., 1995) Participants had marginally less sexual behavior than the control group At 15 and 23 month post-test, participants had significantly less sexual behavior than the control group
15.	Straight Talk (Orr, Lowry, Vickers, Crock- er, & Brown, 1994)	10 to 13 year old boys and their fathers	 4- 2 hour sessions 1 session is fathers only 3 sessions are for fathers and sons homework 	 The parent component has not been evaluated No independent evaluation Evaluation focused on participant satisfaction
16.	Talking about sex: A guide for families (Planned Parenthood Federation of America, 1996)	Parents and their young adoles- cents	 30 minute animated video Parents' guide Children's activity workbook 	 No evaluation information available
17.	Ta	Parents and adults who will dis- cuss HIV/AIDS with children and adolescents	 Video 3 sessions (1- 3 hour session and 2- 2 hour sessions) 	• No evaluation information available
18.	Teaching Human Sexuality: A Guide for Parents and Other Caregivers (Cyprian, 1998)	Written originally for foster par- ents addressing sexuality for birth to age 18, but appropri- ate for variety of concerned adults	 5 chapters Topics: communication, physical health, emerging sexuality, relationships, and safety 	• No evaluation information available
19.	Worth the Wait (Young Women's Resource Center, 1997)	6 th -9 th graders. Parent compo- nent is recommended, but op- tional	• 3 parent sessions for the abstinence only version of the program	 Demonstrated a positive, short term impact on students Parent component has not been evaluated Oneoine lone-term evaluation underway in MN

reported abstaining from sexual intercourse (DHHS, 1999; DHHS, 1998a).

Adolescent contraceptive use has also increased over the years (AGI, 1994; Adams, et al., 1992). The Center for Disease Control and Prevention [CDC] (1997) reported that between 1990 and 1997, 15- to 19-year-old males and females increased their condom use. An 11% increase occurred for females (40–51%) and a 14% increase for males (49–63%) (CDC, 1998b). However, adolescent contraceptive use remains lower than that of adults (CDC, 1997).

Despite the increased proportion of youth practicing protected intercourse, adolescents are disproportionately at risk for STIs. STI rates have declined among the total population, however the rate of decline among adolescents has not been as great (DHHS, 1995). In 1995, an estimated two-thirds of the 12 million STI cases occurred among individuals under the age of 25. In 1997, 15- to 19-year-old adolescents had the highest gonorrhea rate among all age groups and accounted for one-third of all gonorrhea cases in the United States. The total population had gonorrhea rates of 123 cases per 100,000, compared to 699 cases per 100,000 among 15- to 19-year-old adolescents (DHHS, 1998b).

Many reasons are behind the large number of adolescents (ages 10 to 19 years) contracting STIs. Compared to other age groups, teens are more likely to have multiple sex partners, engage in unprotected sex, and choose higher risk partners (CDC, 1997). Among the serious effects of STIs are impaired fertility, reproductive tract cancer, adverse pregnancy outcomes, and the transmission of HIV infection (DHHS, 1995).

Adolescents are also among the groups most at risk for contracting HIV (DHHS, 1997). A report released April 1998 revealed that worldwide, five adolescents aged 10 to 24 are infected with HIV every minute, resulting in 2.6 million new infections each year. Of those acquiring HIV after infancy, more than half are adolescents (UNAIDS, 1998). Over the past decade the number of U.S. adolescents (13-19 years of age) with AIDS has increased substantially, from 53 adolescent cases in 1986 to 3,130 AIDS cases in 1997. In the last 10 years the proportion of U.S. adolescent AIDS cases that are female more than tripled, from 14% in 1987 to 46% in 1996. These HIV/AIDS statistics are believed to be conservative estimates. A long incubation period (up to 10 years) between HIV infection and an AIDS diagnosis provides a measurement challenge (CDC, 1998a; DHHS, 1995). Although a person may contract HIV as an adolescent, a diagnosis may not be given until signs of the disease occur, which is likely to be in adulthood. Sexual transmission is the most commonly noted method of contracting HIV for adolescents. For male adolescents, 49% of the diagnosed cases were attributed to sex with other men. Of female adolescent HIV cases, 37% were contracted via heterosexual contact, primarily with older men (CDC, 1998a).

Another serious health outcome associated with lack of protection during sexual intercourse is pregnancy (CDC, 1995). Although the teen birth rate has been declining since 1991, it remains higher than the mid-1980s and higher than other industrialized countries. The 1997 birth rate in the United States for adolescents (15–19 years) was 52.3 live births per 1,000, down from 62.0 per 1,000 in 1991. Birth rates tend to vary across the country, with Mississippi having the highest birth rate among teens aged 15- to 19-years old (75 per 1,000) versus Vermont with the lowest (30 per 1,000) (AGI, 1999). Compounding the problem, most teenagers who give birth are unmarried. In 1950, 23% were unmarried compared to 84% in 1996 (CDC, 1998b).

Teen pregnancy results in a constellation of personal and societal problems. Adolescent mothers are more likely to experience poor physical and mental health, educational attainment, employment and income, and a greater level of financial dependence and poverty than their non-childbearing peers. In addition, compared to children of older mothers, the children of teen mothers are more likely to experience poor health, cognitive ability, academic achievement, and social behavioral outcomes (see reviews Coley & Chase-Lansdale, 1998; Hayes, 1987; Jorgensen, 1993).

In relation to pregnancy outcomes, between 1985 and 1996 the abortion rate among U.S. teens decreased by 31% to 29.2 abortions per 1,000 women aged 15–19. Nonetheless, over one-third of pregnancies among adolescents age 15–19 ended in abortion in 1996 (AGI, 1999). Both behavioral and attitudinal factors have been attributed to the declines including, increased emphasis on delaying sexual activity; increased fear of contracting an STI; increased responsibility toward casual sex and out-of-wedlock childbirth; and increased use of contraceptives with prolonged effectiveness (e.g. Norplant), as well as more effective use of contraception (Saul, 1999).

The likelihood of choosing abortion has been associated with both individual characteristics (e.g., more ambitious students, higher socioeconomic backgrounds, and more positive attitudes about abortion) (Brazzel & Acock, 1988; Furstenberg, Brooks-Gunn, Chase-Lansdale, 1989) and safe and proximal access to clinics (Moore & Caldwell, 1977; Murry, 1995). Compared to older women, abortion is likely to result in more complications for adolescent females. They tend to wait until later in the pregnancy to abort, due to denial of the pregnancy or poor access to clinics (Borgatta, 1998).

Summary

Despite some improvement in outcomes associated with adolescent sexual health, much room for improvement remains. Although the frequency and number of adolescents engaging in sexual activity have decreased, the percentage of adolescents initiating intercourse at an early age has increased. Teen pregnancy rates have decreased slightly, however, U.S. rates continue to surpass their 1980 rates and remain the highest of any developed nation. Finally, the impact of the extreme rates of adolescent STI contraction (including HIV) on fertility issues, cancer rates, and morbidity remain to be seen.

Future Directions

Given the alarming statistics, it is clear that adolescent sexual behavior warrants further attention. Although these research trends are quite informative, more extensive efforts could be made to better monitor adolescent sexual health. Several high quality longitudinal datasets (e.g., NLSY, NSAM, NSFG, Add Health) linking adolescent sexual activity to demographic characteristics now exist, however, influential family and developmental processes have been under examined. For example, the CDC's Youth Risk Behavior Surveillance System collects health data representative of U.S. high school students, however, family and developmental processes are overlooked. A smaller representative sample in addition to the larger sample could be tracked to assess developmental trajectories associated with sexual behavior. If one data source tracked multiple adolescent sexual behaviors and outcomes, person typologies could be created to monitor multiple events for individuals across time. For example, the proportion of early initiating adolescents who have had both multiple partners and one or more STIs could be calculated and followed across time.

The data reviewed here also come from multiple sources. For example, the Office of Disease Prevention and Health Promotion and the CDC have been tracking the health status and risk factors of the general population as well as special populations, such as adolescents and racial/ethnic groups. Smaller areas, including counties or school districts, should also be encouraged to track these trends in order to determine geographic areas and persons in need of intervention programs. The next section reviews the findings about the relation between parental factors and adolescent sexual behavior.

Parental Processes and Adolescent Sexual Behavior

The relation between parental process and adolescent sexual behaviors has been researched thoroughly, but findings are mixed. In 1998 Miller published an extensive, comprehensive review of parental influences on issues associated with adolescent pregnancy. Following a similar format (Miller, 1998), the literature examining the association of parental characteristics with adolescent sexual behaviors is reviewed in this section. Attempts were made to focus primarily on literature of the past decade. This review focuses primarily on communication, parental values, monitoring and parental control versus adolescent autonomy, and warmth and support.

Communication

Parent-adolescent communication and its correlation to adolescent sexual behavior has been more thoroughly researched than any other parental influence in this area. Despite this, little is known about the relation between communication and adolescent sexual behaviors in general. Specifically, no single aspect of parent-adolescent communication has been consistently and directly linked to changes in adolescent sexual behaviors (Jaccard & Dittus; 1993; Miller, 1998).

Evidence of the relation between parent-adolescent communication and teen sexual behavior is mixed. Some investigators have found no relation between parent/child communication and teen sexual behaviors (Casper, 1990; Handelsman, Cabral, & Weisfeld., 1987; Hovell et al., 1994; Miller, Norton, Fan, & Christopherson, 1998). Others have related higher levels of parental communication to an increased likelihood of adolescent intercourse (Widmer, 1997). Overall more frequent and positive parent-adolescent communication has been most commonly associated with fewer sexual partners and later and less frequent sexual activity (Jaccard, Dittus, & Gordon, 1996; Miller, Forehand, & Kotchick,1999; Leland & Barth, 1993). Indeed, enhancing parent-adolescent communication is espoused as an important strategy in promoting healthy adolescent outcomes (see Healthy People 2000 objectives, DHHS, 1996).

Communication has also been linked to contraceptive use. The more mothers talked to their sons about birth control the more consistently the sons used birth control (Jaccard, et al., 1996). Girls whose mothers discussed birth control were about half as likely to engage in sex and three times more likely to use effective birth control than girls whose mothers did not discuss birth control (Newcomer & Udry, 1985). It appears that communication does not encourage dangerous adolescent sexual behavior. Although general mother-adolescent communication has been related to less frequent sexual activity and fewer sexual partners, mother-adolescent communication about sex has not been significantly correlated with adolescent sexual behaviors (frequency, number of sexual partners, age at first intercourse, or condom use) (Miller, et al., 1999).

Higher quality communication has been related repeatedly to decreased likelihood of intercourse, delayed first intercourse for sons, decreased likelihood of daughters being pregnant, and increased contraceptive use for daughters (East, 1996; Fisher, 1987; Leland & Barth, 1993; Pick & Palos, 1995). Parents perceived as less supportive and yet discussed sexual issues had adolescents who reported more sexual risk-taking than peers who perceived their parents as more supportive and whose parents communicated about sexual issues (Rodgers, 1999). The quality of the parent-adolescent relationship serves as a possible explanation for the mixed findings on the relation between parental communication and adolescent sexual behaviors. The quality of the communication and the supportive nature of the parent-adolescent relationship require further examination.

A barrier to positive communication is parents' and adolescents' difficulty in talking about sexual issues. Parental communication may be impeded by fears of encouraging or frightening adolescents about sexual behavior (Katchadourian, 1990). Fox and Inazu (1980) reported that the majority of mothers in their study felt "very uncomfortable" discussing topics such as dating, menstruation, sex, and birth control with their daughters. Adolescents are equally as wary. In a more recent study, 45% of female adolescents stated feeling "somewhat" to "very" uncomfortable talking with their parents about these issues (Hutchinson & Cooney, 1998).

Communication about sexuality varies within the population of adolescents and their parents. This variability has been related to demographic factors like gender and ethnicity. In a 1998 retrospective study, young women (19-20 years) reported that 73.8% of their mothers and 20.9% of their fathers had provided them with at least some information on general human sexuality. However, these women also stated that the majority of their parents did not talk about some important topics such as postponing sex, sexual pressures, and sexually transmitted diseases, with the contributions of fathers falling far below that of mothers (Hutchinson & Cooney, 1998). In a 1991 CDC study, parental gender was most strongly associated with whether or not AIDS was discussed. In both single and dual-parent households, mothers (74.2%) were much more likely than fathers (48.9%) to discuss AIDS (CDC, 1991). Parents generally have talked to same-sex children about sexual issues (Fisher, 1993). However, 87% of young women shared that they wanted more information from their fathers (Hutchinson & Cooney, 1998).

Differences in the amount of sexual information given to adolescents also appear to depend on the gender of the adolescent. In an unpublished dissertation, Hutchinson (as cited in Hutchinson & Cooney, 1998) found that only one-third of male adolescents reported receiving at least "some" information about sexuality, compared to almost half of female adolescents.

Ethnicity and SES also have been related to parent-adoles-

cent communication. Non-Hispanics (63.4%) were more likely than Hispanics (51.7%) to discuss AIDS with their children (CDC, 1991). African American parents reported discussing more sexual risk topics with their adolescent daughters than Caucasian parents (Hutchinson & Cooney, 1998). Regarding SES, adolescents whose mothers attended college were more likely to talk to their parents about sexual issues (Leland & Barth, 1993).

Parental Values

Parental values have also been associated with adolescent sexual behaviors. In fact, following his review of the literature, Miller (1998) concluded that the quality of parent-adolescent communication was related to a decrease in adolescent sexual behavior by transmitting values about sexuality, not through the obvious content of communication. Parental disapproval of teen sex has been related to later onset of first sexual experience, having fewer sex partners, less frequent sexual activity, and decreased teen pregnancy (Jaccard, et al., 1996; Miller, et al., 1999; Resnick et al., 1997). Fathers may play a particularly important role. Teens, who perceived their fathers' disapproval independent of their mothers' approval, delayed first intercourse (Dittus, Jaccard, & Gordon, 1997).

Religion can play a strong role in family socialization, particularly in relation to values (Jenkins, 1991). For example, White, adolescent fundamental Protestants reported a delay of first intercourse, whereas their peers reported a decrease in age of first intercourse (Cooksey, Rindfuss, & Guilkey, 1996). Adolescent denomination affiliation has been associated with risk of first intercourse and contraceptive use, although the relation varies by race (Brewster, Cooksey, Guilkey, & Rindfuss, 1998).

Parental values may also be indirectly transmitted to adolescents. Newcomer and Udry (1984) found that mothers who were sexually active as adolescents were more likely to have adolescent daughters who were sexually active. It is yet unclear whether this finding is due to environmental influences (i.e., parental values) or heredity. Specifically, pubertal timing is affected by heredity, which is subsequently associated with age of menarche. In turn, age of menarche has been positively related to the timing of sexual experience as mediated by association with older males (Stattin & Magnusson, 1990).

Again, as with communication, it is possible that the effect of parental values on adolescent sexual behavior is moderated by the quality of parent-adolescent relationships. Parental values may be more influential if the parents provided warmth and support to their teens. However, if parental values were permissive then the adolescents' behaviors were more likely to be more permissive (Moore, Peterson, & Furstenberg, 1986; Weinstein & Thorton, 1989)

Monitoring and Control/Autonomy

Parental monitoring and control of adolescent activities are also related to sexual behaviors. The majority of research supports the notion that higher levels of parental monitoring promote the delay of first sexual intercourse (Ku, Sonenstein, & Pleck, 1993; Danziger, 1995; Capaldi, Crosby, & Stoolmiller, 1996), a lower number of partners and greater use of contraception (Luster & Small, 1994; Miller et al., 1999; Rodgers, 1999). This relation has occurred not only for White adolescents, but also for African-American (Hogan & Kitagawa, 1985; Miller et al., 1999) and Hispanic youth (Hovell et al., 1994; Miller et al., 1999). Other researchers have found no relation between parental monitoring and adolescent sexual experience. However, adolescents who spent time alone at home (Perkins, Luster, Villarruel, & Small, 1998) or dated alone (i.e., unsupervised) (Meschke, Zweig, Barber, & Eccles, in press) were more likely to be sexually active.

Monitoring and control appear to have a curvilinear effect. Both, too many rules and too little supervision, have been related to a greater likelihood of adolescent sexual activity (Miller, Mc-Coy, Olson, & Wallace, 1986). Daughters, who felt controlled via high levels of maternal guilt, were more likely to engage in risky sexual behaviors than their peers who did not perceive their mothers as using guilt to control (Rodgers, 1999). However, a causal relation between parental monitoring and adolescent sexual behavior cannot be determined. For example, high levels of parental monitoring and various methods to control adolescents may be a reaction to adolescent behavior, with antisocial adolescent behavior potentially increasing parental rules and strictness (Miller, 1998). Given this, many unanswered questions about parental monitoring and adolescent sexual behavior remain.

Warmth/Support

A close parent-adolescent relationship is important not only in lowering adolescent sexual behaviors but also as a necessary part of effective limit setting and communication (Jaccard, et al., 1996; Rodgers, 1999). When there is less adolescent closeness with parents there is often an increase in peer influence on sexual issues (Whitbeck, Conger, & Kao, 1993). Female adolescents who held views similar to their peers were more likely to be sexually active and less likely to consistently use contraception than their counterparts, with views more like their parents (Shah & Zelnik, 1981).

In a study of 751 African-American adolescents (between 14 and 17 years), adolescents who had greater satisfaction in their relationship with their mothers were less likely to be sexually active and initiated intercourse later than adolescents with less satisfaction in their relationship with their mothers (Jaccard, et al., 1996; Jaccard, et al., 1998). Higher levels of parent-adolescent connectedness are also associated with a lower likelihood of pregnancy among daughters (Resnick, et al., 1997). Overall, parental closeness to and support for adolescents have been related to reduced adolescent sexual activity and increased contraceptive use.

Other Influences

In addition to parent-adolescent relationships, characteristics of families are also associated with teen sexual behavior. Socioeconomic status has been linked to adolescent sexual behavior, primarily through levels of income and educational attainment. Higher levels of income have been related to later onset of sexual behaviors and lower teen pregnancy rates (Hogan & Kitagawa, 1985; Inazu & Fox, 1980; Lauritsen, 1994). Likewise, higher levels of parental education have been associated with lower adolescent sexual activity, delay of intercourse initiation, greater use of contraception, and lower risk of pregnancy (Forste & Heaton, 1988; Hayward, Grady, & Billy, 1992; Kahn, Rindfuss, & Guilkey, 1990; Roosa, Tein, Reinholtz, & Angelini, 1997).

Parental marital status has also been related to adolescent sexual activity. Adolescents, particularly females, living with one

parent are more likely to engage in early sexual behaviors and less frequently use contraceptives than adolescents with two parents in the home (Hogan & Kitagawa, 1985; Ku, et al., 1993; Meschke, et al., in press; Miller & Bingham, 1989; Moore, Morrison, & Glei, 1995). Further, the early onset of first intercourse has mostly been related to living with a single parent, moderately related to living with stepparents, and least related to living with biological parents (Day, 1992; Thorton & Camburn, 1987). However, these findings may be due to a decrease in the number of parents available to monitor, instead of simply a result of family structure alone.

Parental values may be more easily transferred to children when they are living in the same house with their parents. Dittus, et al. (1997) discussed the importance of the paternal disapproval of teen sex. They found that it was more difficult for teens to perceive this disapproval when the father was absent. However, if the teen did perceive their father's disapproval of teen sex, it moderated the effects of his absence (Dittus et al., 1997).

Ethnicity may affect the degree to which parental marital status influences adolescent sexual behavior. In a sample of adolescents from Black and Hispanic families, after controlling for several demographic variables including age, gender, and ethnicity, Miller, et al. (1999) found that family structure did not significantly predict frequency of intercourse, number of sexual partners, age at first intercourse or condom use. In a second study based on the same sample, adolescents from single-parent families were positively influenced by mother-adolescent communication about sex, which was not found in the total sample (Kotchick, Dorsey, Miller, & Forehand, 1999). These findings suggest that parental marital status and its interaction with other factors regarding its relation to adolescent sexuality should be investigated to a greater extent.

Summary

Adolescent sexual behaviors appear to be related to a number of parental factors, including communication, values, monitoring and control, and warmth and support. Findings on communication remain the most thoroughly studied as well as the most inconclusive as to whether parent-adolescent communication has a positive relation to adolescent sexual health. The type of parent-adolescent communication (general or sex-specific) associated with adolescent sexuality also requires further clarification. Parental values seem to be related to adolescent values, and subsequently adolescent behavior. Moderate amounts of parental control also appear to promote healthy adolescent sexuality. However, warm, supportive parent-adolescent relationships seem to be essential. Warmth and support appear to mediate the association of communication, values, and monitoring with adolescent sexual behavior. In other words, the amount of influence parents have on their adolescents' sexual behaviors depends greatly on the quality of their relationships.

Limitations and Future Directions

Numerous issues are yet to be addressed when reviewing the research on parent-adolescent relationships and adolescent sexual behavior. Primarily, longitudinal studies that include selfreports from parents and adolescents, similar to that of Capaldi, et al. (1996), should be conducted in order to investigate parental correlates from both parental and adolescent points of view. Earlier studies focused almost exclusively on adolescent reports, without taking parental perceptions into account. Longitudinal studies should also address how parent-adolescent relationships, that effectively influence healthy adolescent sexual behaviors, develop over time. None of the studies included in this review targeted populations younger than early adolescence. Little information is available about the effect of the quality of early parent-child relationships on subsequent child development and parent-adolescent interactions. In addition, future studies of adolescent sexuality should also examine parental influence after controlling for sexual socialization that occurs outside of the parents, including school, religious, peer, and sibling influence.

Continuity in the areas of communication, warmth, and monitoring across the life of the youth also needs to be examined. Panel research designs on family processes not only could follow these trends, but also are likely to help explain the differences within and between families of differing parental marital status, ethnicity, and other demographic issues. Other factors such as frequency, consistency, and quality of family processes, including monitoring and communication, have received little longitudinal attention and constitute future research directions.

Few studies have examined the issue of gender differences in parent-adolescent communications about sexuality. Discussions about sex with opposite sex parents may be an important factor, especially given the significant relation between paternal disapproval and adolescents' abstinence from sex. Given the discrepant findings about the association of parent-adolescent communication with adolescent sexuality as related to gender, mother and father communication must be considered as unique predictors of adolescent sexual behavior. In addition to comparing the parents' communication, the interaction of the two also should be examined. Finally, indirect types of communication, such as modeling, may be equally or more influential than direct communication. These issues require further investigation.

Evidence supporting the relation between parent-adolescent processes and teen sexuality is quite strong. However, research alone does not change adolescent decision-making and choices about sexual behavior. This information must be disseminated to adolescents and their parents, who can use the information to promote behaviors related to healthy adolescent sexuality, including delaying first intercourse and exclusive participation in protected sex. One dissemination method includes the development, implementation, and evaluation of intervention programs for adolescents and their parents. Current programs and their limitations are reviewed in the following section.

Adolescent Sexuality Intervention and Parents

Bronfenbrenner (1979) argued that the relation between individuals and their environment can be tested via experimentation. A treatment can be applied to manipulate the environment and, if the research model is supported, the subsequent effect should be a change in the individuals' behavior. Applying this argument to adolescent sexuality, an intervention program could attempt to enhance parent-adolescent communication (environment). If successful, change in communication should in turn influence a predicted change in adolescent sexual behavior (e.g., delay of first intercourse). In other words, interventions are attempts to manipulate the parent-adolescent processes relative to adolescent sexuality, in order to promote healthy sexual behaviors (see Bogenschneider, 1996 for further clarification). Thus, this strategy is a method by which to test theoretical models. In general, research findings document that parent-adolescent processes are more often associated with adolescent sexuality outcomes than not, and yet the number of intervention programs designed to address this association is quite limited. In a 1990 report for the Carnegie Foundation, Small located ten adolescent sexuality programs with a parent component.

Coinciding with the increase of literature in this area and for the purpose of this paper, a similar search in 1998 resulted in the location of almost twenty programs (see Table 1). The search criteria only required that the program be readily accessible nationwide (i.e., offered nationwide or available for purchase to potentially be implemented nationally). The search included the Internet, several data bases (ERIC, Psychlit, Psychinfo), and placing requests on various listserves composed of professionals working in the areas of family, adolescence, and intervention.

Table 1 provides an overview of adolescent sexuality programs with a parent component now available nationwide. Of the ten programs located by Small (1990), only three (30%) are currently available: *PACT, Parent-Child Sex Education*, and *RSVP*. The programs available today differ in their strengths and approach to addressing adolescent sexuality issues.

Current Status of Programming

Adolescent sexuality interventions with a parent component are diverse on a number of issues including target audience, degree of parent participation, program longevity, format, and evaluation. The most common target audience is young adolescents. Sixteen of the 19 programs focus on early adolescents, ages 10 through 14. Three of the programs, *PACT, Parent-Child Sex Education*, and *Plain Talk for Parents* have separate programs for young adolescents and older teens. None of the three programs require that youth and their parents participate in more than one of the age specific programs. However, the potential exists. The program, *Talking to Kids about AIDS*, provides training for parents and other invested adults in talking to grade school through high school youth about AIDS. Although early adolescence is not the primary focus, they are included in the programming effort.

Despite the majority of programs focusing on early adolescence, the degree of parent involvement varies. Twelve of these programs focus equally on parents and teens (e.g., *FACTS and feelings*), three focus primarily on the parents (e.g., *Plain Talk for Parents*), and four interventions target adolescents with an optional parent component incorporated at the program's end (e.g., *Stay SMART*). The optimal degree of parental involvement is not known and cannot be discerned from the evaluation results provided.

The longevity of the 19 programs also varies considerably. Some of the current programs, such as *Parent-Child Sex Education* and *PACT*, have been available for a decade or more, whereas others like *Can We Talk?* are just in their infancy, with project coordinators still working to recruit participation sites. Based on the available evaluation information, program longevity appears to have an impact on the availability of evaluation information. Greater longevity also seems to be related to the complexity of the evaluation design. Given the small number of programs with evaluations, complex or otherwise, the statistical significance of the relation between longevity and efficacy cannot be determined. Delivery methods also differ between programs. The location of program implementation includes participants' homes, community sites, or in some cases both. Homework accounts for the latter situation, with participants completing assignments prior to the next session. Three of the programs (*FACTS and feelings, Growing Pains*, and *Talking About Sex*) are delivered exclusively in the participants' homes. These programs consist of videos and/or newsletters. Seven of the programs are implemented partially at community sites and partially at the participants' homes. These programs include: *Can We Talk?; Girl Talk; Girl Talk, Too; Mother-Daughter Choices; PACT* programs; *Straight Talk;* and *Talking to Your Children.* The remaining nine programs are conducted exclusively at community locations, the most popular implementation site for teen sexuality programs with a parent component.

The time commitment required of participants, as related to delivery style, also varies, given the different number of sessions provided by the programs. Five was the average number of sessions in the programs, with a range of three to ten sessions that included parents. Comparison studies between the programs have not been conducted, therefore, the most effective approach remains unknown.

Evaluation is the only means to determine program efficacy. Two primary components have been associated with high quality evaluation: an external or independent evaluator and a long-term follow up (see Kirby, 1997 for a thorough list of evaluation issues). Having an external or independent evaluator helps ensure that the outcomes are not the result of excessive data manipulation or fabricated data, as the evaluator is not a personal stakeholder in the program. Long-term follow up refers to data collection occurring a considerable amount of time after the intervention. This design aids in confirming that the desired outcomes do not disappear shortly after the program has concluded.

In reviewing the programs, four categories of evaluation emerge, based on the evaluator and type of follow-up procedures utilized. The four categories are: (1) *Process Only* (evaluation focuses on program implementation and participant enjoyment), (2) *Simple* (internal or external evaluator with a follow up taking place one month or less after the program), (3) *Intermediate* (internal evaluator with long-term follow up occurring more than one month after the program), and (4) *Complex* (external evaluator and follow up of one month or more). These categories aid in interpreting the overall evaluation quality of the current programs.

Three programs have conducted a *Process Only* evaluation: *Can We Talk?*, *Girl Talk, Too*, and *Straight Talk*. These evaluations focus on implementation style and/or participant satisfaction. Each of these programs is relatively new. Thus, it is important that participants are satisfied with the program. If participants don't enjoy the program, the chance of recruiting return or new participants decreases greatly. Of the 19 programs, four fell into the *Simple* category, having an internal or external evaluator with a short-term pre/post-test follow up. The three other programs, *It Takes Two*, *Plain Talk*, and *Worth the Wait*, all had external, long-term evaluations in the data collection process. Thus, it appears that programs at this stage are well on their way to meeting the criteria of the *Complex* stage of evaluation.

Two programs have had internal evaluators, but meet the criteria of having a long-term follow up evaluation. *FACTS and feelings* and *Girl Talk* are in the *Intermediate* evaluation cate-

gory. Despite the use of an internal evaluator, the first program has evaluation results published in a peer-reviewed journal (Miller, et al., 1993). This accomplishment strengthens the credibility of the evaluation considerably and provides support for conducting this type of evaluation.

The final evaluation category is *Complex*. Four programs met the criteria of having an external evaluator and follow up data collection occurring more than a month after the program's conclusion. Three of the four programs, *Stay SMART*, *Project Taking Charge*, and *PACT*, have been evaluated by outside universities. The results of the *Stay SMART* (St. Pierre, Mark, Kaltreider, & Aikin, 1995) and *Project Taking Charge* (Jorgensen, 1991) evaluations are published. However, the parent component of *Stay SMART* is not included in this evaluation. An independent evaluation firm has studied the fourth program, *Parent-Child Sex Education*. Evaluators of both, this program (Kirby, 1985) and *PACT*, report a number of significant findings, including an increase in parent-child communication and parental sex knowledge (Cate, 1988 as in *PACT*, 1992).

Summary

Nineteen adolescent sexuality programs with a parent component that are currently available nationwide were located. Great diversity exists between programs. Most of the programs concentrate on early adolescents and their parents and are conducted primarily in community locations, with an average of five sessions per program. Evaluation efforts have also differed substantially, ranging from process focus (participants' enjoyment) to complex (external evaluator with long term follow-up). No evaluation information was available for six of the programs. This review encourages further development of adolescent sexuality programs with a parent component and more evaluation to determine efficacy and the strengths of the various approaches.

Limitations and Future Direction

Despite programming variability, attempts have been made to evaluate the current status of programs addressing teen sexuality with a parent component. Thoughts on future directions follow in two sections. First, recommendations based on the review of the current programs are shared. Second, general recommendations based on current trends and developmental literature are discussed.

Apply a broader lifespan approach. The primary target of such programs is early adolescence. Given that the ultimate goal is to promote healthy adolescent sexual behavior, early adolescence is an appropriate age for intervention. Young adolescents are likely to be sexually inexperienced (DHHS, 1995; Miller, et al., 1986). However, sexuality issues do not end once an adolescent reaches age 15, yet the majority of current programs stop by this age. Sexuality is an ongoing issue that deserves to be revisited on a regular basis. It is recommended that programs expand their age focus and duration of intervention. Given the biological, social, and cognitive development occurring during adolescence, it is likely that an educational concept (e.g., orgasm or resistance skills) might sound foreign at age 10, but may be thoroughly understood at age 15. Three of the 19 programs have sessions covering two or more age groups (PACT, Parent-Child Sex Education, and Plain Talk for Parents). Comprehensive interventions taking a broader life span approach should be encouraged in order to optimize the chances of educating the adolescent in an age appropriate fashion.

Strategize delivery methods. The current programs differ in the amount of time that parents invest in the sessions and the location of the intervention implementation. As stated earlier, the appropriate evaluation to interpret which approach is most effective, has not been conducted. However, previous studies report that parents prefer programs that promote communication with their son or daughter, don't require much time to complete, and can be completed in the home (Beck, et al., 1991; Crockett, et al., 1989 as cited in Toomey, et al., 1996). Reducing potential barriers to parent participation could benefit programming efforts. With this in mind, it would appear that the three programs (*FACTS and feelings, Talking to your children about sex,* and *Can we talk?*) utilizing newsletters and/or videotapes are most conducive to the schedules of parents and, thus, may prove to be optimal.

Increase comparative research. Comparative research is needed to determine how different approaches to intervention and their efficacy might differ by family characteristics, including parental employment, family composition, and ethnicity or individual characteristics, such as age, developmental level, gender, or ethnicity. Different family types are likely to have different needs. For example, race is argued to be related to differing worldviews and socialization (e.g., Scott, 1993). Programming could be designed to address specific familial or cultural needs. The *Parent-Child Sex Education* program has somewhat unique programs for male and female adolescents, but this is the extent to which diversity is expressed in current programming.

Increase quality of evaluation. High quality evaluation of implemented programs should also be encouraged and address as many aspects of programming as possible. Time and energy should not be devoted to ineffective programs and efficacy cannot be determined without evaluation. To help bridge program evaluation and basic research, studies and theories should serve as a foundation in program development. Subsequently, program evaluation could be conducted using all or some of the same measures used in the research guiding the program design. For example, numerous measures of parent-adolescent communication (see review by Miller, 1998) have been developed and could easily be incorporated into program evaluations. Consistency between previous research and evaluation could eliminate one of the possible issues associated with the lack of significant findings—inconsistent or inappropriate measures.

Evaluations should measure changes in behavioral outcomes, in addition to measuring mediating processes such as parent-adolescent communication. Consistent pre- and post-test instruments incorporating both behavior change and mediation processes could benefit program evaluation and the efficacy of interventions. Long-term follow up on changes of the target behavior could also be conducted. Programs proven to be successful after evaluation and replication in a variety of communities could be implemented nationwide, thereby distributing the benefits of these programs' generalizability.

Incorporate the ecological model. Beyond the recommendations evolving from the review of the current programs, efforts also should be applied to incorporating the ecological model (Bronfenbrenner, 1979) in program development and evaluation. Bronfenbrenner argued that in addition to proximal environments, such as family interactions, the larger environment also influences developmental outcomes. Indeed, in addition to parenting processes, neighborhood or community issues have also been found to influence teen sexuality (e.g., Brewster, 1994). Of the 19 programs reviewed, only one teen sexuality program with a parent component made an attempt to include community. Specifically, the *PACT* programs require "communities to provide a structure whereby parents, organizations, agencies, and institutions within each community coalesce efforts and resources to address the problems related to adolescent sexual behavior and attitudes" (*PACT*, 1992, page 2). This objective is enforced primarily to help ensure that the program is sustained in the community, following the facilitator training. In addition to the creation of such program goals, evaluation efforts should be designed to understand if and how these goals are achieved. It is imperative that program developers and evaluators consider the contextual issues surrounding their intervention efforts.

Cross cultural or multi-site comparisons. Given that the U.S. has the highest teen pregnancy rates of industrialized nations and an average age of first intercourse that has recently begun to slightly decrease, it would seem that there is much to learn from other nations. For example, the 1988 teen birthrate in the Netherlands was only 10 per 1,000, compared to 97 per 1,000 in the U.S. (AGI, 1994). What is the Dutch approach to sexuality education? Is such programming feasible in the U.S.? To date, a cross-cultural comparison of program implementation and evaluation has not been undertaken.

On a smaller scale, comparing the effectiveness of programs implemented at different sites within the United States, including central city, rural, and suburban contexts, would also be informative. Much can be learned from effective programs replicated at multiple sites with multiple audiences. To date, the evaluation of *Project Taking Charge* (Jorgensen, 1991) is the only study reported as occurring in areas with different levels of urbanity. Unfortunately, due to the small sample size, program site comparisons were not possible. Efforts should be made to enhance the quantity and quality of multi-site and cross-culture research, particularly evaluation studies.

Conclusions

Adolescent sexuality encompasses a wide variety of health issues that are and should continue to be of concern not only to adolescents, parents, and family life educators but to all Americans. The rapid increase in adolescent AIDS cases and the growing number of teens initiating intercourse at age 14 or younger should not be ignored. Societal discomfort with sexual issues (including that of parents and adolescents), and fear that teaching about sexuality and contraception will promote adolescent sexual activity, have contributed to America's youth not receiving the education necessary to make informed decisions about sexuality (DHHS, 1995). It is a disservice to adolescents when educators are unwilling to teach these issues or when parents and school administrators serve as barriers to pertinent information.

Fortunately, advances have been made in the knowledge and literature about adolescent sexuality. For the most part, parenting is related to adolescent sexuality outcomes via communication, values, monitoring, and a sense of connection with their teen. However, a lack of developmental insight is found in this literature. Existing longitudinal studies tend to start no earlier than early adolescence, focus primarily on adolescent self-reports, and address a limited number of parent-adolescent processes, thus making it difficult to test interactions and examine how the family processes might have differential effects on adolescent sexuality outcomes. Despite this gap in the literature, there have been attempts to strengthen parent-adolescent processes in hopes of promoting healthy adolescent sexual behavior. To date, a total of 19 adolescent sexuality programs with a parent component have been located. For the majority of the programs, evaluation results are promising, however, substantial contributions remain to be made in this area. Future studies should address various programming issues including target audiences, degree of parent participation, and evaluation. In addition, the ecological model (Bronfenbrenner, 1979) should be incorporated to a greater degree in program development and evaluation, including community level involvement and cross-cultural comparisons.

References

- Abma, J., Driscoll, A., & Moore, K. (1998) Young women's degree of control over first intercourse: An exploratory analysis. *Family Planning Perspectives*, 30, 12–18.
- Adams, P. F., Schoebom, C. A., Moss, A. J., Warren, C. W., & Kann, L. (1992) Health risk behaviors among our Nation's youth: United States, 1992. National Center for Health Statistics. Vital Health Statistics, 10 (192).
- Adams, S., Lowry, T., & Orr, J. (1997) *Girl Talk, Too* (revision). Jackson, TN: Western District Family Life Department, University of Tennessee Extension Service, Family Life.
- Advocacy Press (1993) Mother-Daughter Choices Program. Santa Barbara, CA: Advocacy Press.
- The Alan Guttmacher Institute (1994) Sex and America's teenagers. New York York, NY: The Alan Guttmacher Institute.
- The Alan Guttmacher Institute (1999) Teenage pregnancy: Overall trends and state-by-state information. New York, NY: The Alan Guttmacher Institute.
- The Annie E. Casey Foundation. (1999) When teens have sex: Issues and trends, A KIDS COUNT special report. Baltimore, MD: The Annie E. Casey Foundation.
- Bearman, P., & Brucker, H. (1999) Power in numbers: Peer effects on adolescent girls' sexual debut and pregnancy. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Bogenschneider, K. (1996) An ecological risk/protective theory for building prevention programs, policies, and community capacity to support youth. *Family Relations*, 45, 127–138.
- Borgatta, L. (1998) Abortion. In S. B. Friedman, M. M. Fisher, S. K. Schonberg, & E. M. Alderman (Eds.), *Comprehensive adolescent health care: Second edition* (pp. 1147–1152). Philadelphia, PA: Mosby.
- Boys and Girls Clubs of America (1997) Stay SMART (Skills Mastery and Resistance Training). Atlanta, GA: Boys and Girls Club of America.
- Brazzell, J. F., & Acock, A. (1988) Influence of attitudes, significant others, and aspirations on how adolescents intend to resolve a premarital pregnancy. *Jour*nal of Marriage and the Family, 50, 413–425.
- Brewster, K. L., Cooksey, E. C., Guilkey, D. K., & Rindfuss, R. R. (1998) The changing impact of religion on the sexual and contraceptive behavior of adolescent women in the United States. *Journal of Marriage and the Family*, 60, 493–504.
- Brewster, K. L. (1994) Race differences in sexual activity among adolescent women: The role of neighborhood characteristics. *American Sociological Review*, 59, 408–424.
- Brewster, K. L. (1998) The changing impact of religion on the sexual and contraceptive behavior of adolescent women in the United States. *Journal of Marriage and the Family, 60,* 493–504.
- Bronfenbrenner, U. (1979) The ecology of human development: Experiments by nature and by design. Cambridge, MA: Harvard University Press.
- Brown, B. B., & Theobald, W. (1999) *Peer potential: Making the most of how teens influence each other*. Washington, D.C.: National Campaign to Prevent Teen Pregnancy.
- Brown, J. G., Downs, M. M., Peterson, L., & Simpson, C. A. (1989) Parentchild sex education: A training module. St. Joseph, MO: Parent-Child Experience, Inc.
- Brown, J., Lowry, T., & Orr, J. (1997) *Girl Talk* (revision). Jackson, TN: Western District Family Life Department, University of Tennessee Extension Service, Family Life.
- Capaldi, D. M., Crosby, L., & Stoolmiller, M. (1996) Predicting the timing of first sexual intercourse for at-risk adolescent males. *Child Development*, 67, 344–359.
- Cappello, D. (1997) *Plain Talk Training Package*. Seattle, WA: Neighborhood House.

- Casper, L. B., (1990) Does family interaction prevent adolescent pregnancy? *Family Planning Perspectives*, 22, 109–114.
- Center for Disease Control and Prevention (1991) Current trends results from the National Adolescent Student Health Survey. MMWR 1989;38: 147–159.
- Center for Disease Control and Prevention, (1995) 1995 Youth Risk Behavior Surveillance System (YRBSS) [Online]. Available: http://www.cdc.gov/ nccdphp/dash/yrbs/suse.htm
- Center for Disease Control and Prevention, Division of STD Prevention, Sexually Transmitted Disease Surveillance, 1996 U.S. Department of HHS, Public Health Service (September, 1997). Atlanta: Centers for Disease Control and Prevention.
- Center for Disease Control and Prevention (March 1998a) Adolescents and HIV/ AIDS. Facts.
- Center for Disease Control and Prevention (August 1998b) Youth Risk Behavior Surveillance—United States, 1997. MMWR, 47, 1–89.
- Chassin, L., Presson, C. C., Sherman, S. J., & McConnell, A. R., (1995) Adolescent health issues. In *Handbook of pediatric psychology* (2nd ed.). (Michael C. Roberts, Ed.), pp. 723–740. New York, NY: Guilford.
- Child Trends, (1997) Facts At a Glance. Washington, DC: Child Trends, Inc.
- Children's Defense Fund (1991) *The Adolescent and Young Adult Fact Book*. Washington, D.C.: Children's Defense Fund.
- Coley, R. L., & Chase-Lansdale, P. L. (1998) Adolescent pregnancy and parenthood. American Psychologist, 53, 152–166.
- Cooksey, E. C., Rindfuss, R. R., & Guilkey, D. K. (1996) The initiation of adolescent sexual and contraceptive behavior during changing times. *Journal* of Health and Social Behavior, 3, 59–74.
- Cyprian, J. (1998) Teaching human sexuality: A guide for parents and other caregivers. Washington, DC: CWLA Press.
- Danziger, S. K. (1995) Family life and teenage pregnancy in the inner city: Experiences of African-American youth. *Children and Youth Services Review*, 17, 183–202.
- Day, R. D. (1992) The transition to first intercourse among racially and culturally diverse youth. *Journal of Marriage and the Family*, 54, 749–762.
- Dittus, P. J., Jaccard, J., & Gordon, V. V. (1997) The impact of African American fathers on adolescent sexual behavior. *Journal of Youth and Adolescence*, 26, 445–465.
- Donovan, P. (1989) Risk and Responsibility: Teaching Sex Education in America's Schools Today. New York: The Alan Guttmacher Institute.
- East, P. L. (1996) The younger sisters of childbearing adolescents: Their attitudes, expectations and behaviors. *Child Development*, 67, 267–282.
- Fisher, T. D. (1986) An exploratory study of parent-child communication about sex and the sexual attitudes of early, middle, and late adolescents. *The Journal of Genetic Psychology*, *147*, 543–557.
- Fisher, T. D. (1987) Family communication and the sexual behavior and attitudes of college students. *Journal of Youth Adolescence*, *16*, 481–495.
- Fisher, T. D. (1993) A comparison of various measures of family sexual communication: Psychometric properties, validity, and behavioral correlates. *Journal of Sex Research, 30,* 229–238.
- Forste, R. T., & Heaton, T. B. (1988) Initiation of sexual activity among female adolescents. Youth and Society, 19, 250–268.
- Fox, G. L., & Inazu, J. K. (1980) Patterns and outcomes of mother-daughter communication about sexuality. *Journal of Social Issues*, 36, 7–29.
- Furstenberg, F. F., Jr., Brooks-Gunn, J. & Chase-Lansdale, P. L. (1989) Teenage pregnancy and childbearing. American Psychologist, 44, 313–320.
- Gallagher, C., Kohl, J. B., & Dover, C. (1994) Parents and pre-adolescents can talk: A community based, sexuality/communication education curriculum for 5th-6th grade pre-adolescents and their parents (revised). Bozeman, MO: Montana State University.
- Handelsman, C. D., Cabral, R. J., & Weisfeld, G. E. (1987) Sources of information and adolescent sexual knowledge and behavior. *Journal of Adolescent Research*, 2, 455–463.
- Hayes, C. (1987) Risking the future: Adolescent, sexuality, pregnancy and childbearing (Vol. 10). Washington, DC: National Academy Press.
- Hayward, M. D., Grady, W. R., & Billy, J. O. (1992) The influence of socioeconomic status on adolescent pregnancy. *Social Science Quarterly*, 73, 750– 770.
- Hogan, D. P., & Kitagawa, E. M. (1985) The impact of social status, family structure, and neighborhood on fertility of black adolescents. *American Jour*nal of Sociology, 90, 825–855.
- Hovell, M., Sipan, C., Blumberg, E., Atkins, C., Hofstetter, C. R., & Kreitner, S. (1994) Family influences on Latino and Anglo adolescents' sexual behavior. *Journal of Marriage and the Family*, 56, 973–986.
- Howard, M., & Mitchell, M. E. (1997) Postponing Sexual Involvement: An education series for preteens (revised 1997). Atlanta, GA: Adolescent Reproductive Health Center, Grady Health System.
- Hunter-Geboy, C., Lee, I. K., Preston, J., Schultz, J., & White, R. (1995) Project

Taking Charge. Alexandria, VA: American Association of Family and Consumer Science.

- Hutchinson, M. K., & Cooney, T. M. (1998) Patterns of parent-teen sexual risk communication: Implications for intervention. *Family Relations*, 47, 185–194.
- Inazu, J. K., & Fox, G. L. (1980) Maternal influence on the sexual behavior of teen-age daughters: Direct and indirect sources. *Journal of Family Issues*, 1, 81–102.
- Jaccard, J., & Dittus, P. (1993) Parent-adolescent communication about premarital pregnancy. Families in Society: The Journal of Contemporary Human Services, 74, 329–343.
- Jaccard, J., Dittus, P. J., & Gordon, V. V. (1996) Maternal correlates of adolescent sexual and contraceptive behavior. *Family Planning and Perspectives*, 28, 159–165 & 185.
- Jaccard, J., Dittus, P. J., & Gordon, V. V. (1998) Parent-adolescent congruency in reports of adolescent sexual behavior and in communication about sexual behavior. *Child Development*, 69, 247–261.
- Jenkins, K. W. (1991) Religion and families. In S. J. Bahr (Ed.), Family Research: A Sixty-Year Review, 1930–1990, Volume 1 (pp.235–288). NY: Lexington Books/Macmillan, Inc.
- Jenson, G. O., Lee, T. R., & Miller, B. C. (1990) Facts and feelings. Logan, UT: Utah State University Extension Publications.
- Jessor, R., & Jessor, S. (1977) Problem behavior and psychosocial development: A longitudinal study of youth. New York: Academic.
- Jorgensen, S. R. (1991) Project taking charge: An evaluation of an adolescent pregnancy prevention program. *Family Relations*, 40, 373–380.
- Jorgensen, S. R. (1993) Pregnancy and parenting. In T. P. Gullota, G. R. Adams, & R. Montemayer (Eds.), Advances in adolescent development (Vol. 5) (pp. 103–140). Newbury Park, CA: Sage.
- Kahn, J. R., Rindfuss, R. R., & Guilkey, D. K. (1990) Adolescent contraceptive method choices. *Demography*, 27, 323–335.
- Katchadourian, H. (1990) Sexuality. In S. S. Feldman & G. R. Elliott (Eds.), At the Threshold (pp. 330–351). Cambridge, MA: Harvard University Press.
- Kirby, D. (1985) The effects of selected sexuality education programs: Toward a more realistic view. Journal of Sex Education and Therapy, 112, 28–37.
- Kirby, D. (1997) No Easy Answers: Research findings on programs to reduce teen pregnancy. Washington, DC: National Campaign's Task Force on Effective Programs and Research.
- Klein, M., & Gordon, S. (1992) Sex education. In C. E. Walker & M. C. Roberts (Eds.), *Handbook of Clinical Child Psychology* (2nd ed.) (pp. 933–947). New York: John Wiley & Sons.
- Kohl, J. B., Boik, B. L., Dover, C., & Gallagher, C. (1996) Parents and adolescents can talk: A community based, sexuality/communication education curriculum for 7th-9th grade adolescents and their parents (revised). Bozeman, MO: Montana State University.
- Kotchick, B. A., Dorsey, S., Miller, K. S., & Forehand, R. (1999) Adolescent sexual risk-taking behavior in single-parent ethnic minority families. *Journal* of Family Psychology, 13, 93–102.
- Ku, L., Sonenstein, F. L., & Pleck, J. H. (1993) Factors influencing first intercourse for teenage men. *Public Health Reports*, 108, 680–694.
- Lauritsen, J. L. (1994) Explaining race and gender differences in adolescent sexual behavior. Social Forces, 72, 859–883.
- Leland, N. L., & Barth, R. P. (1993) Characteristics of adolescents who have attempted to avoid HIV and who have communicated with parents about sex. *Journal of Adolescent Research*, 8, 58–76.
- Luster, T., & Small, S. A. (1994) Factors associated with sexual risk-taking behaviors among adolescents. *Journal of Marriage and the Family*, 56, 622– 632.
- Meschke L. L. Zweig, J. M., Barber, B. L., & Eccles, J. S. (in press). Demographic, biological, psychological, and social predictors of the timing of first intercourse. *Journal of Research on Adolescence*.
- Miller, B. C. (1998) Families matter: A research synthesis of family influences on adolescent pregnancy. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Miller, B. C., & Bingham, C. R. (1989) Family configuration in relation to the sexual behavior of female adolescents. *Journal of Marriage and the Family*, 51, 499–506.
- Miller, B. C., McCoy, J. K., Olson, T. D., & Wallace, C. M. (1986) Parental discipline and control attempts in relation to adolescent sexual attitudes and behavior. *Journal of Marriage and the Family*, 48, 503–512.
- Miller, B. C., Norton, M. C., Fan, X., & Christopherson, C. R. (1998) Parental discipline and control attempts in relation to adolescent sexual attitudes and behavior. *Journal of Marriage and the Family*, 48, 503–512.
- Miller, B. C., Norton, M. C., Jenson, G. O., Lee, T. R., Christopherson, C., & King, P. K. (1993) Impact evaluation of facts and feelings: A home-based video sex education curriculum. *Family Relations*, 42, 392–400.
- Miller, K. S., Forehand, R., & Kotchik, B. A. (1999) Adolescent sexual behavior

in two ethnic minority samples: The role of family variables. Journal of Marriage and the Family, 61, 85.

- Moore, D., & Caldwell, S. (1977) The effect of government policies on out-ofwedlock sex and pregnancy. *Family Planning Perspectives*, 9, 164–169.
- Moore, K. A., Morrison, D. R., & Glei, D. A. (1995) Welfare and adolescent sex: The effects of family history, benefit levels, and community context. *Journal of Family and Economic Issues*, *16*, 207–237.
- Moore, K. A., Peterson, J. L., & Furstenberg, F F. (1986) Parental attitudes and the occurrence of early sexual activity. *Journal of Marriage and the Family*, 48, 777–782.
- Murry, V. M. (1995) An ecological analysis of pregnancy resolution decisions among African American and Hispanic adolescent females. *Youth & Society*, 26, 325–350.
- National Education Association Health Information Network (1998) Can We Talk? Washington, DC: National Education Association Health Information Network.
- Newcomer, S., & Udry, R. (1984) Mothers' influence on the sexual behavior of their teenage children. *Journal of Marriage and the Family*, 48, 477–485.
- Newcomer, S., & Udry, R. (1985) Parent-child communication and adolescent sexual behavior. *Family Planning Perspectives*, 17, 169–174.
- Orr, J., Lowry, T., Vickers, B., Crocker, E., & Brown, J. (1994) Straight Talk (revision). Jackson, TN: Western District Family Life Department, University of Tennessee Extension Service, Family Life.
- PACT (1992) *Newline* (newsletter). Bozeman, MT: Parents and Adolescents Can Talk.
- Perkins, D. F., Luster, T., Villarruel, F. A., & Small, S. (1998) An ecological, risk factor examination of adolescents' sexual activity in three ethnic groups. *Journal of Marriage and the Family*, 60, 660–673.
- Pick, S., & Palos, P. A. (1995) Impact of the family on the sex lives of adolescents. Adolescence, 30, 667–675.
- Planned Parenthood (1996) *Talking about sex: A guide for families*. US: Planned Parenthood Federation of America.
- Polulech, J. B., & Nuttall, P. (1988) Growing Pains: Sex education for parents: A newsletter series. Storrs, CT: The University of Connecticut Cooperative Extension Service.
- Resnick, M. D., Bearman, P. S., Blum, R. W., Baurman, K. E., Harris, K. M., Jones, J., Tabor, J., Beuhring, T., Sieving, R. E., Shew, M., Ireland, M., Bearinger, L. H., & Udry, J. R., (1997) Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *Journal of the American Medical Association*, 278, 823–832.
- Rodgers, K. B. (1999) Parenting processes related to sexual risk-taking behaviors of adolescent males and females. *Journal of Marriage and the Family*, 61, 99–109.
- Roosa, M. W., Tein, J. Y., Reinholtz, C., & Angelini, P. J. (1997) The relationship of childhood to sexual abuse to teenage pregnancy. *Journal of Marriage and the Family*, 59, 119–130.
- Saul, R. (1999) Teen pregnancy: Progress meets politics. *The Guttmacher Report* on Public Policy, 2, New York: The Alan Guttmacher Institute.
- Scott, J. W. (1993) African American daughter-mother relations and teenage pregnancy: Two faces of premarital teenage pregnancy. *The Western Journal* of Black Studies, 17, 73–81.
- Shah, F, & Zelnik, M. (1981) Parent and peer influence on sexual behavior, contraceptive use, and pregnancy experience of young women. *Journal of Marriage and the Family*, 43, 339–348.
- Small, S. A. (1990) Preventive programs that support families with adolescents. Working paper commissioned by the Carnegie Council on Adolescent Development.
- St. Pierre, T., Mark, M. M., Kaltreider, D. L., & Aikin, K. J. (1995) A 27-month evaluation of a sexual activity prevention program in boys and girls clubs across the nation. *Family Relations*, 44, 69–77.
- Stattin, H., & Magnusson, D. (1990) *Pubertal maturation in female development*. Hillsdale, NJ: Erlbaum.
- Sucoff, C. A., & Upchurch, D. M., (1998) Neighborhood context and the risk of childbearing among metropolitan-area black adolescents. *American Sociological Review*, 63, 571–585.
- Thoms, A. (1996) Responsible sexual values program. Columbus, OH: Pregnancy Distress Center of Columbus.

- Thorton, A., & Camburn, D. (1987) The influence of the family on premarital sexual attitudes and behavior. *Demography*, 24 (3), 323–340.
- Tiffany, J., Tobias, D., Raqib, & Ziegler, J. (1993) *Talking to Kids About AIDS*. Ithaca, NY: Cornell University.
- Toomey, T. L., Williams, C. L., Perry, C. L., Murray, D. M., Dudovitz, B., & Veblen-Mortenson, S. (1996) An alcohol primary prevention program for parents of 7th graders: The Amazing Alternatives! Home Program. *Journal of Child and Adolescent Substance Abuse*, 5, 35–53.
- U.S. Department of Health and Human Services (October 26, 1994) Healthy People 2000: Progress Report for: Sexually transmitted infections.
- U.S. Department of Health and Human Services (1995) *Healthy People 2000: Midcourse review and 1995 revisions.*
- U.S. Department of Health and Human Services (March 26, 1996) *Healthy People 2000: Progress Review: Family Planning.*
- U.S. Department of Health and Human Services (July 8, 1997) *Healthy People* 2000, *Progress Review: HIV infection.*
- U.S. Department of Health and Human Services (July 9, 1998a) *Healthy People* 2000: *Progress review: Adolescents and young adults.*
- U.S. Department of Health and Human Services (June 3, 1998b) *Healthy People* 2000: Progress review: Sexually transmitted infections.
- U.S. Department of Health and Human Services (March 3, 1999) *Healthy People 2000: Progress review: Family Planning.*
- UNAIDS Press Release (April 22, 1998) New report finds five young people infected with HIV every minute. UNAIDS [Online], Available: http:// www.us.unaids.org/highband/press/prlaunen.htm [1999, November 15].
- Ventura, S. J., Martin, J. S., Curtis, S. C., & Matthews, T. J. (1998) Births: Final data for 1997. *National Vital Statistics Reports*, 47. Hyattsville, MD: National Center for Health Statistics.
- Weinstein, M., & Thornton, A. (1989) Mother-child relations and adolescents sexual attitudes and behaviors. *Demography*, 26 (4), 563–577.
- Whitbeck, L., Conger, R., & Kao, M. (1993) Parental support, depressed affect, and peers on the sexual behaviors of adolescent girls. *Journal of Family Issues*, 14 (2), 261–278.
- Widmer, E. D. (1997) Influence of older siblings on initiation of sexual intercourse. Journal of Marriage and the Family, 59, 928–938.
- Wilson, S., Dover, C., & Kohl, J. (1994) Parents and Adolescents Can Talk: Older Youth (revised). Bozeman, MO: Montana State University.
- Witt, D. D., & Biddle, C. (1998, unpublished) Responsible Social Values Program (RSVP) Evaluation.
- Young Women's Resource Center (1994) It Takes Two. Des Moines, IA: Young Women's Resource Center.
- Young Women's Resource Center (1997) Worth the Wait. Des Moines, IA: Young Women's Resource Center.

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