Science and Success

Sex Education and Other Programs That Work to Prevent Teen Pregnancy, HIV & Sexually Transmitted Infections

Advocates For Youth
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Advocates for Youth—Helping young people make safe and responsible decisions about sex

Advocates for Youth is dedicated to creating programs and advocating for policies that help young people make informed and responsible decisions about their sexual and reproductive health. Advocates provides information, training, and strategic assistance to youth-serving organizations, youth activists, policy makers, and the media in the United States and in developing nations.

This document was principally researched and compiled by Sue Alford, with significant assistance from Barbara Huberman, Tamarah Moss, and Debra Hauser and with invaluable advice and guidance from Ammie Feijoo, Kathy Farrell, Laura Davis, and Marcela Howell.

Designed by: Rebecca Lazaroff

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Introduction

Teen pregnancy and birth rates have declined steadily in the United States in recent years. Despite these declines, the U. S. has the highest teen birth rate and one of the highest rates of sexually transmitted infections (STIs), among all industrialized nations. To help young people reduce their risk for pregnancy and STIs, including HIV, program planners should look to the body of available evaluation and research to identify effective programs. To this end, Advocates for Youth established a set of stringent criteria for program effectiveness and then conducted an exhaustive literature review. This paper compiles descriptions of the rigorously evaluated programs that have demonstrated effectiveness at reducing adolescents' risk for primary pregnancy and STIs, including HIV.

Criteria for Inclusion——The programs included in this document all had evaluations that:

- Were published in peer-reviewed journals (a proxy for the quality of the evaluation design and analysis).
- Used an experimental or quasi-experimental evaluation design, with treatment and control / comparison conditions.
- Included at least 100 young people in treatment and control / comparison groups.

Further, the evaluations either:

- Continued to collect data from both groups at three months or later after intervention and
- Demonstrated that the program led to at least two positive behavior changes among program youth, relative to controls:
  - Postponement or delay of sexual initiation
  - Reduction in the frequency of sexual intercourse
  - Reduction in the number of sexual partners / increase in monogamy
  - Increase in the use, or consistency of use, of effective methods of contraception and/or condoms
  - Reduction in the incidence of unprotected sex.

Or:

- Showed program effectiveness in reducing rates of pregnancy, STIs, or HIV in intervention youth, relative to controls.

Program Content——Of the 19 programs that fit the criteria above, 16 include information about abstinence *and* contraception within the context of sex education. Of the three that do not include sex education, two are early childhood interventions and one is a service-learning program.

Risk Avoidance Through Abstinence——Twelve programs effectively demonstrated a statistically significant delay in the timing of first sex among program adolescents, relative to control youth. (See Table A, page vi)

Risk Reduction for Sexually Active Youth——Many of the programs also demonstrated reductions in other sexual risk-taking behaviors among participants relative to control youth. (See Table A, page vi)

- 11 programs demonstrated an ability to assist sexually active youth to increase their use of condoms.
- 8 demonstrated success at increasing contraceptive use other than condoms.
- 6 resulted in a reduction of the number of sex partners among program participants.
- 6 assisted sexually active youth to reduce the frequency of sexual intercourse.
- 4 demonstrated the ability to reduce the incidence of unprotected sex.
- 2 reduced the incidence of anal intercourse.

Reduced Rates of Teenage Pregnancy or Sexually Transmitted Infections——Eight programs showed statistically significant declines in teen pregnancy, HIV or other STIs. Seven demonstrated a statistically significant impact on teenage pregnancy among program participants, compared to controls, and one, a reduced trend in STIs. (See Table A, page vi)

The Setting of Effective Programs

The programs are grouped here into three sections. Section I describes effective sex education programs designed for and evaluated in school settings. Section II describes effective, community-based sex education programs and their respective evaluations. Section III describes other programs (all school-based) that have been found to reduce young people's risk for teen pregnancy and STIs, including HIV. For a brief summary of programs' settings and locale, as well as the grade range and populations served by each program, please see Chart B.

Within the description of each program, Advocates for Youth includes information about the program's components, the populations with whom the program is most effective, evaluation methodology, and findings. When applicable, Advocates includes this same information regarding the program's replication. Finally, the description includes contact information for learning more about or ordering the program.

Note: A number of evaluated programs did not meet all the criteria for inclusion in this document, yet may be worth educators' consideration. Programs were not included here if evaluation—

- Has not been published in a peer-reviewed journal
- Found or measured only one positive behavior change
- Did not include a comparison or control group
- Did not include at least 100 young people in participation and comparison / control groups, combined.

For information about these and other programs, please visit Advocates for Youth's Web site at www.advocatesforyouth.org/programsthatwork.

Table A. Effective Programs and Their Impact on Adolescents' Risk for Pregnancy, HIV & STIs

PROGRAMS	BEHAVIORAL OUTCOMES						HEALTH IMPACTS	
	Delayed Initiation of Sex	Reduced Frequency of Sex	Reduced Number of Sex Partners	Reduced Incidence of Unprotected Sex	Increased Use of Condoms	Increased Use of Contra-ception	Decreased Incidence of STIs	Decreased Number or Rate of Teen Pregnancy / Birth
1. Reducing the Risk	★			★		★		
2. Postponing Sexual Involvement (Augmenting a Five-Session Human Sexuality Curriculum)	★	★				★		
3. Postponing Sexual Involvement, Human Sexuality & Health Screening	★					★		
4. Safer Choices					★	★		
5. Reach for Health Community Youth Service	★	★			★	★		
6. AIDS Prevention for Adolescents in School			★		★		★	
7. Get Real about AIDS			★		★			
8. School / Community Program for Sexual Risk Reduction among Teens	★				★			★
9. Self Center (School-Linked Reproductive Health Center)	★			★		★		★
10. California's Adolescent Sibling Pregnancy Prevention Project	★					★		★
11. Adolescents Living Safely: AIDS Awareness, Attitudes & Actions		★	★		★			
12. Becoming a Responsible Teen	★	★		★	★			
13. Children's Aid Society—Carrera Program	★				★	★		★
14. Be Proud! Be Responsible! A Safer Sex Curriculum		★	★		★			
15. Making Proud Choices!	★	★		★	★			
16. Poder Latino: A Community AIDS Prevention Program for Inner-City Latino Youth	★		★					
17. Seattle Social Development Project	★		★		★			★
18. Abecedarian Project								★
19. Teen Outreach Program								★

Note: Blank boxes indicate either: 1) the program did not measure, nor aim at, this particular outcome / impact; or 2) the program did not achieve a significant positive outcome in regard to the particular behavior or impact.

Table B. Successful Programs: Settings & Populations Served

PROGRAM	LOCALE			RANGE				POPULATIONS			
School-Based Programs	*Urban*	*Sub-urban*	*Rural*	*Pre-School*	*Elemen-tary*	*Junior High*	*Senior High*	*White*	*Black*	*Hispanic*	*Asian*
1. Reducing the Risk	★	★	★				★	★	★	★	★
2. Postponing Sexual Involvement (Augmenting a Five-Session Human Sexuality Curriculum)	★					★			★		
3. Postponing Sexual Involvement, Human Sexuality & Health Screening	★					★			★		
4. Safer Choices	★	★					★	★	★	★	★
5. Reach for Health Community Youth Service	★					★			★	★	
6. AIDS Prevention for Adolescents in School	★						★	★	★	★	★
7. Get Real about AIDS	★	★	★				★	★		★	
8. School / Community Program for Sexual Risk Reduction among Teens			★		★	★	★	★	★		
9. Seattle Social Development Project	★				★			★	★		★
10. Abecedarian Project	★			★	★				★		
11. Teen Outreach Program	★	★	★				★	★	★	★	
Community-Based Programs											
12. Self Center (School-Linked Reproductive Health Center)	★					★	★		★		
13. California's Adolescent Sibling Pregnancy Prevention Project	★		★			★	★			★	
14. Adolescents Living Safely: AIDS Awareness, Attitudes & Actions	★					★	★	★	★	★	
15. Becoming a Responsible Teen	★						★		★		
16. Children's Aid Society—Carrera Program	★					★	★		★	★	
17. Be Proud! Be Responsible! A Safer Sex Curriculum	★					★	★		★		
18. Making Proud Choices!	★					★			★		
19. Poder Latino: A Community AIDS Prevention Program for Inner-City Latino Youth	★						★			★	

Science and Success:

Program Descriptions and Evaluation Results

Section 1. School-Based Sex Education Programs to Prevent Teen Pregnancy, HIV, and Sexually Transmitted Infections

Over the course of the past 20 years, school-based sex education, including information about abstinence and contraception, has been evaluated to ascertain its ability to affect behaviors that have an impact on rates of teenage pregnancy, and more recently, on rates of sexually transmitted infections (STIs), including HIV. Evaluation has shown that some programs achieve significant behavior changes. At the same time, evaluation has also shown that sex education that includes information about abstinence and contraception does not increase the frequency nor hasten the onset of sexual intercourse.[1,2]

Following are descriptions of eight school-based sex education programs that work. Each of these programs fits the stringent criteria for inclusion in this document, as described in the Introduction (p. iv). Each program demonstrated either a reduction in pregnancy and/or HIV/STI rates or an impact on at least two of the following behaviors:

- Postponement or delay of sexual initiation
- Reduction in the frequency of sexual intercourse
- Reduction in the number of sexual partners / increase in monogamy
- Increase in the use of effective methods of contraception and/or condoms
- Reduction in the incidence of unprotected sex

Educators interested in effective sex education programs designed for the school setting should explore replicating one of the eight programs described in this section:

1. *Reducing the Risk*
2. *Postponing Sexual Involvement (Augmenting a Five-Session Human Sexuality Curriculum)*
3. *Postponing Sexual Involvement, Human Sexuality & Health Screening*
4. *Safer Choices*
5. *Reach for Health Community Youth Service*
6. *AIDS Prevention for Adolescents in School*
7. *Get Real about AIDS*
8. *School / Community Program for Sexual Risk Reduction among Teens*

Reducing the Risk

Program Components

- Sex education curriculum, including information on abstinence and contraception
- Sixteen sessions, each lasting 45 minutes and expandable to 90 minutes, if desired
- Includes experiential activities to build skills in refusal, negotiation, and communication, including parent-child communication
- Educator training is recommended

For Use With

- High school students, especially those in grades nine and 10
- Low risk youth*
- Sexually inexperienced youth
- Multi-ethnic populations+
- Urban, suburban, and rural youth

Evaluation Methodology

- Quasi-experimental design, including treatment and comparison conditions, in 13 California high schools
- Urban and rural high school students (n=1,033 at baseline; n=758 after 18 months); mean age at baseline, 15.3 years
- Pretest and post-test at program exit, with six- and 18-month follow-up

Evaluation Findings

- Increased parent-child communication about abstinence and contraception
- Delayed initiation of sexual intercourse
- Reduced incidence of unprotected sex among lower risk youth

Replication Evaluation Methodology & Findings

- Quasi-experimental design, including treatment and comparison conditions, in five school districts in Arkansas
- Rural and urban youth (n=512 at baseline; n=212 at 18-month follow-up); average age 15 to 16
- Pretest and 18-month follow-up
- Achieved knowledge and behavior changes similar to those of original evaluation, including increased use of contraception among sexually active youth

> *Evaluators' comments: The curriculum…reduced the chance that a student would initiate intercourse, possibly by as much as 24 percent. Moreover, it did not increase the frequency of intercourse among students who had already initiated intercourse.*
>
> Source: Kirby, Barth, Leland, *et al.* 1991

Program Description

Reducing the Risk is a sex education curriculum for grades nine through 12, but especially recommended for grades nine and 10. Lasting 16 class periods and instructor-led, it focuses on behavioral goals—specifically, on youth's avoiding unprotected sexual intercourse through 1) practicing abstinence or 2) using contraception. Nearly every activity supports this norm, by assisting teens to personalize information on the risks of unprotected sex and teaching them how to avoid unprotected sex. As such, *Reducing the Risk* addresses sexual risk-taking related to both pregnancy and HIV/STI prevention. Through experiential activities, participants learn to recognize and resist peer pressure, make decisions, and negotiate safer sexual behaviors. The curriculum is based on social learning theory, social inoculation (social influence) theory, and cognitive behavioral theory. *Reducing the Risk* also encourages students to talk to their parents about abstinence and birth control.[3,4] This program is among those that were chosen by the Centers for Disease Control and Prevention for its compendium of "Programs-that-Work." [5]

* Evaluators defined lower risk youth as ones who did not meet the criteria for higher risk students. Higher risk students were defined as those who did not live with both parents, whose mother did not finish high school, whose high school grades were mostly Ds or lower, who drank alcohol one or more times during the preceding month, and/or who normally drank five or more drinks on each occasion.

\+ Populations include white, Latino, Asian, and black youth.

Evaluation Methodology

Reducing the Risk was implemented in 13 high schools in urban and rural California school districts. The treatment participants (n=429) and comparison youth (n=329) were surveyed at four points—prior to their exposure to the curriculum, immediately afterwards, and at six and 18 months after receiving the curriculum. Students were mostly in ninth (27 percent) or 10th (56 percent) grade and female (53 percent). Youth were mostly white (62 percent) or Latino (20 percent). Nine percent were Asian; two percent were black; and two percent, Native American; five percent checked "other." The average age at baseline was 15.3. Seventy percent of students lived with both their parents; 24 percent lived with a single parent; and seven percent, in other situations. At pretest, there were no significant differences between students assigned to participate in *Reducing the Risk* (treatment condition) or to comparison groups that received whatever sexual health education teachers were already providing (comparison condition). In evaluation, 46 classrooms of students taking a mandatory health education class were randomly assigned to either the treatment or the comparison condition. Thus, the evaluation measured the impact of *Reducing the Risk* relative to other sex education curricula. [3]

Outcomes

- **Knowledge—**Participating and comparison students' knowledge of contraception increased substantially over time; however, knowledge increased significantly more among participants than among comparison youth. [3]
- **Attitudes and perceptions—**The curriculum significantly affected students' perceptions of the proportion of their peers who had ever had sexual intercourse. The two groups' perceptions were similar at pretest (all respondents believed that about one-half of their peers had initiated sex). By the six-month post-test, comparison group members believed that more than half of their peers had initiated sex, while no such change was apparent in the perceptions of the treatment group. [3]
- **Behaviors—**
  - **Increased parent-child communication about abstinence and contraception—**Participating students, particularly Latinos, significantly increased their discussions with parents about abstinence and contraception at six-months post-intervention. [3]
  - **Delayed initiation of sexual intercourse—**Among youth who had not initiated sex at the time of receiving *Reducing the Risk,* a significantly smaller percentage (29 percent) had initiated sex 18 months later compared to comparison youth (38 percent)—a 24 percent reduction in the initiation of sex among participants as opposed to that among comparison youth. [3]
  - **Reduced incidence of unprotected sex among lower risk youth—**Among all lower risk youth, regardless of sexual experience at pretest, there were significant differences in unprotected sexual intercourse (as measured by comparing those who delayed initiating sexual intercourse and those who had sex but used contraception at most recent sexual intercourse with those who had sex and did not use contraception at most recent intercourse). At pretest, 11 percent of both comparison and treatment groups had engaged in unprotected sexual intercourse; at 18 months follow-up, only 13 percent of the treatment group had engaged in unprotected sex; but 23 percent of the comparison group had done so.[3]

Replication Evaluation Methodology

Reducing the Risk was replicated in Arkansas. Participants and comparison youth (n=212) were white (85 percent) and black (14 percent); 52 percent were female; 49 percent were in grade 10, and 31 percent in grade 11. The comparison group consisted of five school districts matched to five treatment school districts based on geographic location, racial / ethnic distribution, and average per capita income. Comparison classes received a one-semester health education program that included whatever sexuality education was provided in that school district. One classroom in each treatment and comparison school district was randomly selected for testing. [4]

Replication Outcomes

- **Behaviors—**
  - **Increased parent-child communication—***Reducing the Risk* resulted in a significantly higher proportion of participants than comparison youth talking with their parents about birth control and about protection from HIV/STI. [4]
  - **Delayed initiation of sexual intercourse—**Evaluation showed that a significantly smaller percentage of participants than comparison youth who were sexually inexperienced at pretest had initiated sex after 18 months (28 and 43 percent, respectively).[4]
  - **Increased use of contraception—**Significantly more participants than comparison youth who initiated sexual intercourse after baseline also reported using effective methods to prevent pregnancy and HIV/STI (89 and 46 percent, respectively).[4]

For More Information or to Order, Contact

- **ETR Associates**: Phone, 1.800.321.4407; Fax, 1.800.435.8433; Web, http://www.etr.org/
- **Sociometrics, Program Archive on Sexuality, Health & Adolescence** Phone, 1.800.846.3475; Fax, 1.650.949.3299; E-mail, pasha@socio.com; Web, http://www.socio.com

Postponing Sexual Involvement (Augmenting a Five–Session Human Sexuality Curriculum)

Program Components

- Peer-led sex education, including information about abstinence and contraception, designed to augment human sexuality curriculum
- Five, 50-minute sessions, delivered by trained peer educators, and five, 50-minute sessions on reproductive health, led by health professionals
- Referral of sexually active youth for nearby reproductive health care, including contraception

For Use With

- Eighth grade students
- Black youth
- Sexually inexperienced youth
- Youth at high risk*

Evaluation Methodology

- Quasi-experimental design, including treatment and comparison conditions, in inner-city schools in Atlanta, Georgia
- Urban eighth graders (n=536 who completed five surveys)
- Surveys at the beginning, middle, and end of eighth grade (during the program) and at the beginning and end of ninth grade (three months and 12 months after the intervention)

Evaluation Findings

- Delayed initiation of sexual intercourse
- Reduced frequency of sex
- Increased use of contraception

Replication Evaluation Methodology & Findings: Postponing Sexual Involvement (Omitting the Five Session Human Sexuality Curriculum)

- Experimental design, including treatment and control conditions, in 56 middle or junior high schools and 17 community-based agencies throughout California
- Seventh and eighth graders (n=10,600 at baseline; n= 4,324 at three-month follow-up; n=7,340 at 17-month follow-up)
- Surveys at baseline and at three- and 17-month follow-up
- Findings—No significant changes in sexual behavior in participants as compared to controls

> *Evaluators' comments: Educational programs must be age-specific, promoting attitudes and skills that young adolescents can use until they gain more mature skills in managing their sexuality…[Finally], program staff believes that the student leaders are extremely important, because they make the program more interesting and acceptable to the younger students…help[ing] them seriously consider the messages being given.*
>
> Source: Howard M, McCabe JB, 1990

Program Description

Postponing Sexual Involvement is designed for use in middle schools to augment course information on human sexuality, including contraceptive information. The five-session *Postponing Sexual Involvement* curriculum (taught by 10th and 11th grade peer educators) involves participants in discussions about social and peer pressures to have sex and provides opportunities for youth to practice skills that help them resist these pressures. The program is based on social inoculation theory.[6]

Evaluation Methodology

The study population in Atlanta, Georgia, comprised 536 low-income, mostly black, eighth graders, followed through ninth grade. The evaluation was designed to determine the impact of augmenting the five-unit human sexuality curriculum with the five sessions of

* This evaluation defined youth at high risk as low-income teens who rely primarily on publicly funded hospitals for their health care.

Postponing Sexual Involvement. Students in program schools were divided into two groups: those who had initiated sex and those who had not. Both these groups were compared to students who did not participate in the program. At baseline, students in program schools were slightly more likely to report having had sex than were youth in non-program schools (25 and 23 percent, respectively). At baseline, eighth grade males (44 percent) were more likely to report having had sex than were females (nine percent). Of the 536 students who completed all five interviews, 131 (25 percent) reported having had sexual intercourse before the first interview.[6]

Outcomes

- **Knowledge—**At the end of eighth grade, participants had more knowledge of contraception than did non-program youth.[6]
- **Attitudes—**At the end of eighth grade, 95 percent of participants felt that what they learned would help them to refuse sex.[6]
- **Behaviors—**
  - **Delayed initiation of sexual intercourse**—Participants were significantly more likely than comparison youth to postpone the initiation of sexual intercourse. By the end of eighth grade,
    - > Participants were five times less likely than comparison youth to have initiated sex (four and 20 percent, respectively).[6]
    - > Participating males were over one third less likely than comparison males to have initiated sex (eight and 29 percent, respectively).[6]
    - > Female participants were 15 times less likely than comparison females to have initiated sex (one and 15 percent, respectively).[6]
    - > By the end of ninth grade, just 24 percent of participants had initiated sex, compared to 39 percent of non-participants (males, 39 and 61 percent, respectively; females, 17 and 27 percent, respectively).[6]
  - **Reduced frequency of sex**—After the program was offered, 55 percent of the comparison group described themselves as having sex "often" or "sometimes," compared to 39 percent of the treatment group. Students in the treatment group were more likely to report "having tried sex only once or twice" (43 percent versus 28 percent of comparison youth).[6]
  - **Increased use of contraception**—Among students who had never had sex at baseline but initiated sex thereafter, nearly half of participants used contraception, compared to one-third of non-participants.[6]

Replication Evaluation Methodology: Postponing Sexual Involvement (Omitting the Five Session Series on Reproductive Health)

In June 1992, the California Office of Family Planning funded a statewide, teen pregnancy prevention initiative entitled Education Now, Babies Later (ENABL), that utilized *Postponing Sexual Involvement*, but omitted the five sessions on human sexuality. School-wide and community-based activities, and a statewide media campaign accompanied the intervention. To evaluate the impact of the program, 10,600 youth were assigned to treatment and control conditions—students within selected schools, the entire seventh and eighth grade classes at some schools, and youth recruited at community-based agencies. The final sample included 7,340 youth who completed both the baseline and 17-month follow-up survey; 3,843 of these youth also completed the three-month post-test survey.[7,8]

ENABL differed in significant ways from the original program, implemented in Atlanta, Georgia:

- **Age of students—**In Georgia, eighth grade students received the program compared to seventh and eighth graders in California.[7]
- **Five-session unit on reproductive health—**In Georgia, the program was implemented along with a five-session unit that included information about human sexuality, contraception, and making decisions. In California, this five-session unit was omitted.[7]
- **Peer educators and adult leaders—**In Georgia, adults led the five-session reproductive health unit and trained youth led the five-session *Postponing Sexual Involvement* curriculum. In California, youth, accompanied by adults, led only about 10 percent of classroom sessions. Ninety percent of classrooms and all community-based programs were adult-led.[7]
- **Video—**A video was used faithfully in Georgia and was used by only about half of program implementers in California.[7]

Replication Outcomes

At three- and 17-month follow-up surveys, evaluators found no significant differences in sexual behavior between the treatment and control groups. Youth in treatment and control groups were equally likely to have initiated sexual intercourse. Moreover, youth in the treatment and control groups were equally likely to report involvement in a pregnancy or diagnosis with an STI.[7,8]

For More Information or to Order, Contact

- **Marian Apomah, Coordinator, Materials Management / Training Support**; Adolescent Reproductive Health Center: Box 26158, Grady Health System, 80 Butler Street, SE, Atlanta, GA 30335; Phone, 404.616.3513; Fax, 404.616.2457

Postponing Sexual Involvement, Human Sexuality & Health Screening

Program Components

- Two-year intervention, beginning in the seventh grade
- Three, 45-minute classroom sessions on reproductive health, delivered by health professionals to seventh graders and again the next year to eighth graders
- Five, 45-minute sessions of *Postponing Sexual Involvement* for seventh graders, led by trained peer leaders (10th and 11th graders)
- Eight brown bag sessions, for small groups of eighth grade program participants
- Eighth grade assembly
- Contest for eighth grade participants
- Full-time health professional from outside the school, working in each school
- Individual health risk screening of students

For Use With

- Seventh and eighth grade students
- Urban youth at high risk*
- African American youth
- Economically disadvantaged youth

Evaluation Methodology

- Experimental evaluation design, including treatment and control conditions, in six junior high schools in Washington, DC
- Urban seventh graders (n=522 at baseline; n=503 at first follow-up; n=459 at second follow-up; n=422 at final follow-up at the end of eighth grade)
- Surveys at baseline (winter of seventh grade) with follow-up at the end of seventh and beginning of eighth grades and post-intervention follow-up at the end of eighth grade

Evaluation Findings

- Delayed initiation of sexual intercourse (females only)
- Increased use of contraception (females only)

Evaluators' comments: The study's positive findings in reproductive health knowledge and contraceptive use suggest that recruiting outside health professionals to provide education and outreach in the school setting may be a useful prevention strategy.

Source: Aarons, Jenkins, Raine, *et al.* 2000

Program Description

This pregnancy and HIV/STI prevention intervention combines elements of two previously evaluated programs: *Postponing Sexual Involvement* and components of the *Self Center* (see pages four and 20, respectively). The *Postponing Sexual Involvement* peer education curriculum is coupled with individual and small group educational methods, adapted from the *Self Center*, in bringing outside health professionals to provide education and outreach to students in school settings. The goal of the program is to delay students' initiation of sexual intercourse. This intervention is based on social cognitive theory.[9]

A full-time health professional serves as the project facilitator and leads three, 45-minute classroom sessions on reproductive health, including information about abstinence and contraception, for seventh grade classes. These classes are followed by five 45-minute classroom sessions of *Postponing Sexual Involvement*, led by trained peer educators. The peer educators are 10th and 11th grade students recruited from nearby high schools. Toward the end of the first year of the program, students complete a health risk assessment questionnaire that addresses self-rated health, risk behavior, school performance, physical fitness, social support, and depression. Using a series of questions adapted from GAPS (Guidelines for Adolescent Preventive Services), health professionals conduct individual interviews with students whose questionnaires report substance use, physical abuse, sexual activity, or emotional problems.[9]

* High risk was defined by responses to the health assessment survey, including reports of substance use, physical abuse, sexual activity, or emotional problems.

In the fall of the succeeding year, facilitators present the three reproductive health classes again to all eighth grade students. A series of booster activities reinforces the concepts of abstinence and self-care. Booster activities include: brown bag sessions for small, informal groups of no more than 15 students; an eighth grade assembly; and a contest for eighth grade participants, featuring their poetry, artwork, etc. Eight brown bag sessions are offered—one per week, covering a range of adolescent health issues, such as gang violence, drug use, and teen pregnancy. Facilitators speak privately with each student who attends a brown bag session, asking if the student has any questions about the topic or other health related matters. The assembly is presented by health professionals from affiliated clinics. Eighth grade intervention students may also participate in a contest on a topic related to the intervention. Contestants enter poems, songs, essays, drawings, and T-shirt designs.[9]

Evaluation Methodology

A non-probability sample of six schools was selected from among 18 middle and junior high schools in the District of Columbia. Schools were chosen based on their proximity to one of the three adolescent health clinics affiliated with the study. Two schools were selected because of their high enrollment of Hispanic students. Schools were paired according to seventh grade class size, location, and racial / ethnic distribution, and then were randomly assigned to the intervention or control group. Of 896 seventh graders enrolled in the six schools at the beginning of the study, 522 received parental consent to participate. Of these, 274 were female (52 percent); 85 percent were African American and about 12 percent were Hispanic. Participants' average age at baseline was 12.8 years and 63 percent of youth participated in the free / reduced price school lunch program. Forty-six percent of students lived with both parents; while an equal percentage lived with one parent or with one parent and another adult. The intervention was assessed by comparing the answers of intervention participants and control students at baseline (n=522); at the end of the seventh grade (n=503); at the beginning of eighth grade (n=459); and at the end of eighth grade (n=422). [9]

Outcomes

- **Knowledge—**Participating males had significantly more knowledge of birth control methods and services than did control males at all follow-up times; participating females had significantly more knowledge than control females only at the end of eighth grade. [9]
- **Attitudes and perceptions—**
  - At the end of seventh grade, female program participants were significantly more likely than control females to say that they would not have sex in the next six months (57.3 and 45.9 percent, respectively).[9]
  - A significantly higher percentage of participating females than control females reported feeling able to refuse sex.[9]
  - Participating males had significantly more positive beliefs about the benefits of delaying childbearing than did control males. [9]
- **Behaviors—**
  - **Delayed initiation of sexual intercourse—**In post-intervention surveys, intervention group females had higher virginity rates than did control females. The odds ratios were statistically significant at the end of seventh grade (2.09) and at the end of eighth grade (1.9).[9]
  - **Increased use of contraception—**At three measurement intervals, sexually active female participants were 3.5 to five times more likely than control females to report using birth control at most recent sex. [9]
  - **Behavioral findings relating to young men—**The program had no statistically significant impact on sexual behaviors in participating males. Evaluators noted that knowledge gains made by participating males had no impact on their timing of sexual initiation or on their contraceptive use.[9]

For More Information or to Order, Contact

- **Renee R. Jenkins, MD, Dept. of Pediatrics and Child Health, Howard University Hospital:** 2041 Georgia Avenue NW, Washington, DC 20060
- For *Postponing Sexual Involvement*—**Marian Apomah, Coordinator, Materials Management / Training Support; Adolescent Reproductive Health Center:** Box 26158, Grady Health System, 80 Butler Street, SE, Atlanta, GA 30335; Phone, 404.616.3513; Fax, 404.616.2457
- For the *Self Center*—**Dr. Laurie Schwab Zabin, School of Hygiene & Public Health, Johns Hopkins University:** Phone, 410.955.5753; Fax, 410.955.0792
- For the *Self Center*—**Sociometrics, Program Archive on Sexuality, Health & Adolescence:** Phone, 1.800.846.3475; Fax, 1.650.949.3299; E-mail, pasha@socio.com; Web, http://www.socio.com

Safer Choices

Program Components

- HIV/STI and teen pregnancy prevention curriculum
- Twenty sessions, each lasting one class period, divided evenly over two years
- Includes experiential activities to build skills in communication, delaying sex, and among sexually active youth, using condoms
- School health protection council
- Peer team or club to host school-wide activities
- Parenting education
- Links to community services
- HIV-positive speakers (optional)
- Educator training is recommended

For Use With

- High school students in ninth and 10th grades
- Urban and suburban youth
- Multiethnic populations*
- Sexually experienced youth

Evaluation Methodology

- Experimental design, including treatment and control conditions, in 20 schools in Texas and California
- Urban and suburban youth (n=3,869 at baseline; n=3,058 at final follow-up)
- Pretest and follow-up surveys at seven months (end of first year of intervention), at 19 months (end of second year of the intervention), at 31 months after baseline, and at 12 months after second year of the intervention

Evaluation Findings

- Increased use of effective contraception
- Increased condom use
- Reduced number of sexual partners without the use of condoms

> *Evaluators' comments: It is possible that high school is too late to have a substantial effect on the initiation of sexual intercourse and that condom use behavior may be more salient for this population.*
>
> Source: Coyle, Basen-Engquist, Kirby, *et al.* 2001

Program Description

Safer Choices is a two-year, school-based, HIV/STI and teen pregnancy prevention program with the primary goal of reducing unprotected sexual intercourse by encouraging abstinence and, among students who report having sex, encouraging condom use. The program seeks to modify 1) HIV/STI knowledge; 2) attitudes and norms about abstinence and condom use; 3) students' belief in their ability to refuse sex and avoid unprotected sex, to use a condom, and to communicate with partners about safer sex; 4) barriers to condom use; 5) perceptions of risk for infection with HIV or other STIs; and 6) communication with parents.[10] *Safer Choices* is among those that were chosen by the Centers for Disease Control and Prevention for its compendium of "Programs-that-Work." [5]

Based on social cognitive theory, social influences theory, and models of school change, *Safer Choices* is a high school program that includes a school health protection council, the curriculum, a peer club or team to sponsor school-wide activities, parenting education, and links between schools and community-based services. In some schools, programs also incorporate an HIV-positive speaker. The program is delivered in 20 sequential sessions, divided evenly between ninth and 10th grades. Parents receive a newsletter and participate in some student-parent homework assignments. School-community links center on activities to enhance students' familiarity with and access to support services in the community. Each year of the program, schools implement activities across all five components. [10,11]

* Populations in the evaluation include white, Hispanic, African American, and Asian youth.

Evaluation Methodology

Safer Choices was evaluated in 20 high schools in California and Texas. In each state, five high schools were randomly assigned to receive *Safer Choices* and five schools, to receive a standard, knowledge-based, HIV prevention curriculum. A total of 3,869 ninth grade students completed the baseline survey in fall 1993. Twenty-nine percent of participants and control youth were white; 29 percent, Hispanic; 20 percent, African American; and 14 percent, Asian. Participants and control youth were 50 percent male, 50 percent female. The cohort was tracked for 31 months, and follow-up data were collected from 3,058 students, using self-reported surveys administered by trained data collectors.[10,11]

Outcomes

- **Knowledge—**At 31-month follow-up, evaluation found significant improvements in participants' knowledge about HIV and STIs, in comparison to control youth.[11]
- **Attitudes and perceptions—**At 31-month follow-up, intervention participants expressed significantly more positive attitudes about condoms and reported greater condom use self-efficacy, fewer barriers to condom use, and higher levels of perceived risk for HIV than did control youth. [11]
- **Behaviors—**
  - **Increased use of effective contraception—**Sexually experienced students in intervention schools were 1.76 times more likely to use an effective pregnancy prevention method (birth control pills, birth control pills plus condoms, or condoms alone) than were students in comparison schools. [11]
  - **Increased condom use—***Safer Choices* had its greatest effect regarding condom use. Sexually experienced intervention students were less likely to report having sex without a condom in the three months prior to follow-up surveys than were sexually experienced control students. Intervention students who reported having sexual intercourse during the prior three months were 1.68 times more likely to have used condoms than were control students. [11]
  - **Reduced number of partners with whom teens had intercourse without a condom—**Intervention students reduced the number of sexual partners with whom they had sexual intercourse without a condom by a ratio of 0.73. [11]
  - **Sexual initiation unaffected—**Evaluation found no significant differences in the incidence of sexual initiation between intervention and control students, either at three-month posttest or at final follow-up. The intervention did not hasten the onset of sex; neither did it significantly delay the onset of sex.[10,11]
  - **Number of sexual partners and use of substances prior to sex unaffected—**Evaluation found no significant differences between intervention and control youth on number of sexual partners reported in the last three months, nor on use of alcohol and other drugs before sexual intercourse in the last three months.[10,11]
- **Outcomes from Integrating HIV-Positive Speakers into the Program**
  Separate evaluation found that integrating HIV-positive speakers into the program also produced positive outcomes for inner-city youth. During the two-year intervention in Texas, about 384 high school classrooms (mostly ninth and 10th grade) heard an HIV-positive speaker. [12]
  - **Attitudes—**Evaluation found that students who received the speaker presentation reported significantly higher perceived risk of HIV infection, compared to control students. Results also suggested that students in the intervention who heard the speaker were more willing to help a person with HIV and were less fearful of hugging an HIV-infected classmate than were those who did not hear the speaker.[12]
  - **Behaviors—**
    > **HIV testing—**Students in the intervention condition who heard the HIV-positive speaker were more likely to get tested for HIV, compared to students who did not hear the speaker.[12]

For More Information or to Order, Contact

- **ETR Associates**: Phone, 1.800.321.4407; Fax, 1.800.435.8433; Web, http://www.etr.org

Reach for Health Community Youth Service

Program Components

- Health promotion curriculum
- Forty lessons per year in each of two years, each lesson lasting one class period
- Includes three hours per week of community service in assigned placements
- Reflection and activities to help students learn from their community experiences
- Educator training is recommended

For Use With

- Seventh and eighth graders / middle school students
- Urban youth
- Black and Hispanic youth
- Economically disadvantaged youth

Evaluation Methodology

- Quasi-experimental and experimental designs, including treatment and comparison groups, in two large, public middle schools in New York, New York
- Urban youth (n=1,157 at baseline; n=1,061 at spring follow-up); average age at baseline, 12.2 for seventh graders and 13.3 for eighth graders
- Pretest and follow-up nine months later; longitudinal follow-up after a further 24 months

Evaluation Findings

- Delayed initiation of sexual intercourse
- Reduced frequency of sex
- Increased condom use
- Increased use of contraception
- Long-term: sustained reduction in rates of initiation of sexual intercourse

> *Evaluators' comments: A service learning intervention that combines community involvement with [sexual] health instruction can have a long-term benefit by reducing sexual risk-taking among urban adolescents.*
>
> Source: O"Donnell, Stueve, O'Donnell, *et al.* 2002

Program Description

The *Reach for Health Community Youth Service* (CYS+) program builds upon community-based service learning. It includes a health promotion curriculum (*Reach for Health*, based upon *Teenage Health Teaching Modules*, and including information regarding human sexuality), delivered to seventh and eighth graders by educators trained specifically in the curriculum. The health curriculum consists of 40 core lessons that focus on three primary health risks faced by urban youth: drug and alcohol use, violence, and sexual behaviors that may result in pregnancy or infection with HIV and other STIs. Students also spend about three hours each week providing service in community settings, such as nursing homes, senior centers, full-service clinics, and child day care centers. Under the guidance of their health teachers as well as staff from placement sites, students perform such tasks as reading to elders, assisting with meals, and helping with exercise, recreation, and arts. Students prepare for their service activities by learning more about the organization to which they are assigned and by setting personal goals for their service learning. The program is based on the health belief model and theories of social learning. As such, the program expects students to learn both by doing and by reflecting on their experiences.[13]

Evaluation Methodology

The evaluation was designed to compare the impact of receiving the CYS+ program (*Reach for Health* curriculum plus service learning) to that of receiving the health curriculum only and of receiving no intervention. The study sites included two large, urban middle schools. One school served as the intervention school and one as the comparison. Classes in the intervention school were randomly assigned to receive only the health curriculum (*Reach for Health*, which includes information about human sexuality) or the health curriculum plus the service-learning component (CYS+). All students in grades seven and eight at two school sites were eligible to participate in the evaluation study, if they received written parental consent. Ninety-four percent of eligible students participated; 48 percent of the students completing surveys at both baseline and follow-up were eighth graders. Forty-seven percent of participants were male. At baseline, the average age of seventh graders was 12.2, and of eighth graders, 13.3; 16 percent of students self-identified as Hispanic and 79 percent as non-Hispanic black; five percent self-identified as "other." Of 1,061 students completing both fall and spring surveys, 255 participated in the CYS+ intervention; 222 participated in the curriculum only intervention; and 584 served as comparisons. At baseline, 68 percent of the sample had never had sex while 23 percent reported having had sex in the three months prior to the survey. Among those reporting recent sex at baseline, 40 percent reported no use or inconsistent use of condoms.[13]

Outcomes

- **Behaviors—**
  - **Delayed initiation of sexual intercourse—**Rates of sexual initiation increased by eight percentage points among comparison youth, but by only three percentage points among curriculum-only and four percentage points among CYS+ youth.[13]
  - **Reduced frequency of sex—**Rates of recent sex increased five percentage points among comparison youth while increasing by three percentage points among curriculum-only youth and decreasing by nearly half a percentage point among CYS+ youth. The difference between comparison and CYS+ youth was statistically significant.[13]
  - **Increased condom use—**Comparison students reported an increase of three percentage points in recent sex without a condom, compared to decreases of 13 and 16 percentage points, respectively, among curriculum-only and CYS+ youth. [13]
  - **Increased use of contraception—**Comparison students reported an increase of nine percentage points in recent sex without birth control pills, compared to decreases of five and eight percentage points, respectively, among curriculum-only and CYS+ youth.[13]
  - **Behavioral changes among special education students—**Although the number of special education students in this study was small and findings must be used with caution, this group appeared to experience some of the greatest benefits of the curriculum alone. [13]
    - > Among special education students, comparison youth reported a 26 percentage point increase in ever having had sex and CYS+ youth, a four percentage point increase, compared to a 13 percentage point decrease among curriculum-only youth. [13]
    - > Among special education students, comparison and CYS+ youth reported an increase of 31 and three percentage points, respectively, in recent sex, compared to a decrease of 11 percentage points among curriculum-only youth. [13]
    - > Rates of recent sex without a condom decreased by eight, 100, and 27 percentage points, respectively, among comparison, CYS+, and curriculum-only groups of special education students. [13]
    - > Special education comparison youth reported an increase of 22 percentage points in recent sex without birth control pills, compared to decreases of 50 and 22 percentage points, respectively, among their CYS+ and curriculum-only peers. [13]

Long-Term Impact

- **Delayed initiation of sexual intercourse—**Follow-up when youth had reached 10th grade found that CYS+ youth were less likely than youth who received the health curriculum only to report having initiated sex or to report recent sex. Among those who had not had sex at baseline, 44 percent of male and 57 percent of female CYS+ youth had not initiated sex by 10th grade, compared to 27 percent of males and 47 percent of females who received the curriculum only. Similarly, sexually experienced curriculum-only youth were more likely to report recent sex than were sexually experienced CYS+ youth: among curriculum-only youth, 69 percent of males and 47 percent of females reported recent sex, compared to 45 percent of CYS+ males and 38 percent of CYS+ females.[14]

For More Information, Contact

- **Education Development Center** (EDC): Phone, 617.969.7100; Fax 617.969.5979; Web, http://www.edc.org/

AIDS Prevention for Adolescents in School

Program Components

- HIV/STI prevention curriculum
- Six sessions, each lasting one hour, delivered on consecutive days
- Includes experiential activities to build skills in refusal as well as in risk assessment and risk reduction
- Educator training is recommended

For Use With

- High school students
- Urban youth
- Multiethnic populations*

Evaluation Methodology

- A quasi-experimental design, including treatment and comparison conditions, in four high schools in New York, New York
- Urban youth (n=1,201 at baseline; n=867 at follow-up); mean age 15.7
- Pretest and follow-up survey at three months post-intervention

Evaluation Findings

- Increased monogamy
- Reduced number of high risk sexual partners
- Increased condom use
- Long-term: reduced incidence of STIs

> *Evaluators' comments: [This] special, theoretically and empirically based HIV / AIDS-preventive curricula was feasible to implement on a large scale in an inner-city school system, was acceptable to key constituent groups, and was associated with favorable changes in students' involvement in sexual…risk behaviors.*
>
> Source: Walter and Vaughan, 1993

Program Description

This school-based, teacher delivered curriculum for urban high school students seeks to increase knowledge about HIV / AIDS, build skills to recognize and prevent behaviors that put youth at risk of HIV infection, and encourage youth to make healthy decisions. Based on three theories of health behavior change (the health belief model, social cognitive theory, and a model of social influence), the curriculum emphasizes delaying the initiation of sex and, among youth who choose to have sex, consistently using condoms. The program uses role-playing and other experiential activities to enhance students' confidence and their ability to avoid risky situations. The overall goal of the program is to prevent unprotected sexual intercourse. [15]

The curriculum comprises six hour-long lessons, implemented on consecutive days. The first two lessons focus on conveying correct information about HIV transmission and prevention, including 1) teaching students to accurately appraise their risk of HIV infection, 2) fostering appropriate concern about HIV infection, based on youth's individual risk behaviors, and 3) directing students to HIV prevention resources within the school and community. The next two lessons focus on 1) correcting students' misperceptions regarding their peers' HIV risk behaviors, 2) helping students clarify their individual values, and 3) empowering students, via role-playing, with negotiation skills to delay the initiation of sexual intercourse. The final two lessons focus on empowering students with skills to negotiate condom use and with the knowledge and skills to obtain and use condoms correctly when they become sexually active. Teachers receive an eight-hour in-service training prior to implementing this curriculum, which is also suitable for use in community-based organizations. [15]

* Populations in the evaluation include mostly black and Hispanic, but also white and Asian youth.

Evaluation Methodology

The study population consisted of ninth and 11th grade students (n=1,201) enrolled in required general education courses in four academic high schools in a New York City borough. The four schools were selected on the basis of their combined demographic representation of the total population of schools in the borough and were grouped into two pairs of schools. Thirty percent of ninth grade classrooms in the first two schools were randomly selected to receive the HIV prevention curriculum. Twenty percent of ninth grade classes in the second pair of schools were randomly selected as comparison classes and received no formal HIV prevention education. At the same time, 30 percent of 11th grade classrooms in the second pair of schools received the intervention, while 20 percent of 11th grade classes in the first pair of schools acted as comparisons. [15]

In evaluation, participating (n=667) and comparison (n=534) students were mostly female (59 percent). Youth were mostly black (37 percent) or Hispanic (35 percent); the remaining 28 percent of youth were mostly non-Hispanic white or Asian. The mean age of students was 15.7. Forty-eight percent were in ninth grade and 52 percent, in 11th grade. At baseline, one-third of students reported having had sex in the past three months. Among these sexually experienced students, over half reported inconsistently or never using condoms; one-fifth reported two or more sexual partners; and one in 20 reported having a high risk sexual partner—one who injected, inhaled, or smoked drugs. At baseline, 11th graders reported more risk factors (i.e., inconsistent or no use of condoms, multiple sexual partners, sex with high-risk partners, or diagnosis with an STI) than did ninth graders; males reported more risk factors than females; and blacks, than whites, Asians, or others. Compared to the comparison group at baseline, a higher percentage of students in the intervention group were older, male, black or Hispanic and held more unfavorable beliefs about the benefits of preventive action. The program's effectiveness was assessed at three-months post-intervention, when 71 percent of intervention youth and 73 percent of comparison youth completed the follow-up assessment. [15]

Outcomes

- **Knowledge—**Evaluation showed that participants' net change in knowledge regarding HIV transmission was significantly greater than that of comparison students. [15]
- **Attitudes and perceptions—**Participants' net change in attitudes related to risk reduction and self-efficacy was significantly greater than comparisons' net change in attitudes. Significant, favorable, net change was observed in the participants' beliefs about their susceptibility to HIV, attitudes about the benefits of using condoms, and self-efficacy* related to condom use. [15]
- **Behaviors+—**
  - **Increased monogamy—**A significantly greater percentage of intervention participants than comparison youth reported behaviors from baseline to follow-up that included initiating or continuing monogamy (approximately 23 and 16 percent, respectively). [15]
  - **Reduced number of high risk sexual partners—**A significantly smaller percentage of intervention participants than comparison youth reported having high-risk sexual partners between baseline and follow-up (approximately two and eight percent, respectively).[15]
  - **Increased condom use—**A significantly greater percentage of intervention participants than comparison youth reported consistent condom use from baseline to follow-up (approximately six and three percent, respectively). [15]
  - **Timing of sexual initiation unaffected—**The program had no significant impact on delaying the initiation of sex. [15]

Long-Term Impact

- **Decreased STI incidence—**The intervention appeared to be associated with a favorable trend in incidence of STIs.[15]

For More Information or to Order, Contact

- **Sociometrics, Program Archive on Sexuality, Health & Adolescence:** Phone, 1.800.846.3475; Fax, 1.650.949.3299; E-mail, pasha@socio.com; Web, http://www.socio.com

* Self-efficacy may be summarized as a belief in one's own ability to perform tasks or to achieve results.

\+ Effects did not vary significantly by students' age, race / ethnicity, or gender.

Get Real about AIDS

Program Components

- HIV risk reduction curriculum
- Fifteen sessions, each lasting one class period and delivered over consecutive days
- Includes experiential activities to build skills in refusal, communication, and using condoms
- Activities to reach more youth, such as making public service announcements (PSAs) and distributing wallet-size HIV information cards
- Educator training is recommended

For Use With

- High school students in grades nine through 12
- Urban, suburban, and rural youth
- Sexually active youth
- Multiethnic youth*

Evaluation Methodology

- Quasi-experimental design, including treatment and comparison conditions, in 17 schools in Colorado, including two alternative schools
- Rural, urban, and suburban youth (n=2,844 completing at least one survey; n=2,015 at baseline; n=1,816 at two-month follow-up; n=1,477 at six-months follow-up); average age 15.0
- Pretest and two- and six-month follow-up assessment

Evaluation Findings

- Reduced number of sexual partners
- Increased condom use
- Increased condom purchase

> *Evaluators' comments: Skills-based HIV risk reduction programs should be implemented before the onset of sexual activity and continued through high schools. They should be taught by trained teachers who are comfortable teaching skills-based HIV curricula and programs and [they] should be taught in their entirety… If anything less than this occurs, the impact of the programs will likely be minimal…*
>
> Source: Main DS, Iverson DC, McGloin J *et al.* 1994

Program Description

Get Real about AIDS is a skills-based, HIV risk reduction curriculum, designed for high school students. It consists of 15 sessions, delivered over consecutive days, and utilizes interactive activities, discussion, role-playing, simulation, and videos to give teens the knowledge and skills to reduce their risk of HIV infection. The overall goal of *Get Real about AIDS* is to reduce sexual risk behaviors by delaying the initiation of sex. The program goal for youth who choose to have sex is to encourage them to abstain from drug use, to use condoms consistently and correctly, practice monogamy, and get tested for HIV. Class lessons are reinforced through activities implemented by teachers, such as displaying posters and distributing wallet cards with HIV information. This intervention is based on social cognitive theory and the theory of reasoned action,[16] and is among those that were chosen by the Centers for Disease Control and Prevention for its compendium of "Programs-that-Work." [5]

* Populations in the evaluation included white and Hispanic youth.

Evaluation Methodology

Seventeen high schools in six Colorado school districts were assigned to intervention (n=10) or comparison (n=7) groups. Two were alternative schools—one was included in the intervention group and one in the comparison group. Within each district, intervention and comparison schools were matched as closely as possible with respect to grade, gender, and racial / ethnic distribution. In comparison schools, teachers were encouraged to offer their usual HIV prevention programs. In fact, four comparison schools offered no HIV education. The remaining comparison schools offered minimal HIV education. Teachers for the intervention program received a five-day, 40-hour training, designed to enhance fidelity to the written curriculum. Students completed a baseline survey (n=2,015), a follow-up survey at two months post-intervention (n=1,816), and another at six-months post-intervention (n=1,477).[16]

At baseline, 65 percent of students were white; 21 percent were Hispanic; six percent were black; and three percent were Asian. Forty-nine percent were female. Students' average age was 15; and 60 percent of youth were in ninth grade. At baseline, 44 percent of students indicated that they had had sexual intercourse and less than two percent said they had injected drugs. Students' self-reports, comparing baseline and follow-up results at two and six months post-intervention, were used to determine the program's effectiveliness.[16]

Outcomes

- **Knowledge—**At six-month follow-up, students in intervention classes scored significantly higher on knowledge of HIV and HIV prevention, relative to those in the comparison group.[16]
- **Attitudes and perceptions—**At six-month follow-up, students in intervention classes demonstrated significantly healthier intentions than did youth in comparison classes, especially in regard to their intentions to engage in sex less often and to use a condom when they have sexual intercourse.[16]
- **Behaviors—**
  - **Reduced number of sexual partners—**At six-month follow-up, sexually active intervention students reported significantly fewer sexual partners within the past two months than did those in comparison schools.[16]
  - **Increased condom use—**At six-month follow-up, sexually active intervention students reported significantly more frequent use of condoms during sexual intercourse in the past two months than did those in comparison schools.[16]
  - **Increased condom purchases—**At six-month follow-up, students in intervention classes were more likely than those in comparison schools to report purchasing a condom.[16]
  - **Timing of sexual initiation unaffected—**The intervention did not significantly postpone the initiation of sexual intercourse among participants, relative to comparison youth, measured at six-month follow-up.[16]
  - **Frequency of sex and use of alcohol and other drugs unaffected—**At six-month follow-up, the intervention had not reduced the frequency of sex among sexually experienced students nor had it reduced their use of alcohol and other drugs before having sex.[16]

For More Information or to Order, Contact

- **Sociometrics, Program Archive on Sexuality, Health & Adolescence:** Phone, 1.800.846.3475; Fax, 1.650.949.3299; E-mail, pasha@socio.com; Web, http://www.socio.com
- **AGC Educational Media:** Phone 1.800.323.9084; Fax, 847.328.6707; E-mail, agemedia@starnetinc.com

School / Community Program for Sexual Risk Reduction among Teens

Program Components

- Sex education integrated into biology, science, social studies, and other courses
- Graduate level sex education courses for teachers
- Training of peer educators
- School-based health clinic services, including contraceptive provision as well as referral and transportation to reproductive health care in the community
- Workshops to develop parents' and community leaders' skills as role models
- Media coverage of a spectrum of health topics

For Use With

- Kindergarten through 12th grade
- Multiethnic youth*
- Rural youth

Evaluation Methodology

- Quasi-experimental design, including treatment and comparison conditions, in rural counties in South Carolina
- Rural young women, ages 14 to 17 (n≈4,800)
- Estimated pregnancy data (live births plus fetal deaths plus abortions) for the intervention county and three contiguous counties, compared prior to the program (1981-1982), during the two years of the program (1984-1986), and for two years post-program (1987-1988)

Evaluation Findings

- Long-term: reduced teen pregnancy rate

Replication Evaluation Methodology & Findings

- Quasi-experimental design, including treatment and comparison conditions
- Rural and urban students (n=1,714) in grades nine through 12 in two counties in Kansas during 1994-1996
- Delayed initiation of sexual intercourse
- Increased condom use (males only)

> *Evaluators' comments: Our reanalysis strongly suggests that the incidence of adolescent pregnancies…decreased between 1984 and 1986 as a result of the overall efforts of the Denmark program… In 1987-1988, pregnancy rates returned to a higher level, probably because of both the cessation of provision of contraceptive counseling and supplies in school and the loss of momentum of the program.*
>
> Source: Koo, Dunteman, George, *et al.* 1994

Program Description

This intensive, school-based intervention has the overall goal of reducing unintended teen pregnancy. Based on social learning theory and diffusion theory, its behavioral objectives include postponing the initiation of voluntary sexual intercourse among teens and promoting the consistent use of effective contraception, including condoms, among teens that choose to have sex.[17,18]

As originally implemented in Denmark, South Carolina, the program includes several components. Teachers are offered graduate level courses in sex education. Sex education is then integrated into the curriculum for all grades (kindergarten through 12th grade). The intervention offers mini-courses (five sessions of two hours each) for parents, clergy, and community leaders to improve their skills as role models. Students are trained to serve as peer educators. Local media reinforce messages about avoiding unintended pregnancy and highlight special, community events of the initiative. Finally, a school nurse provides contraceptive counseling, condoms to requesting students, and transportation to a local family planning clinic.[17]

* Populations in the evaluations include white and black youth.

Evaluation Methodology

In the mid-1980s, the county was 58 percent black and 42 percent white, lacked public transportation, and was primarily agricultural. Little migration into or out of the county occurred. For evaluation, annual estimated pregnancy rates for the intervention portion of the county (western) were compared with the estimated rates for the non-intervention portion of the county (eastern) and for three other South Carolina counties with socio-demographic indicators similar to the target community. Trends in estimated pregnancy rates were then examined by comparing the average pregnancy rates for the pre-intervention years (1981-1982) with the average rates for the intervention years (1984-1986) and post-intervention years (1987-1988) and comparing changes from pre-intervention to post-intervention between areas.[17] A second evaluation, conducted in the early 1990s, re-examined the impact of the program by comparing pregnancy rates in the intervention community with rates in other portions of the county, and six more counties (contiguous and non-contiguous) that analysis had shown to be most similar to the intervention county.[17]

Long-Term Impact

- **Reduced teen pregnancy rate—**Evaluation found that the pregnancy rates in the intervention portion of the county declined significantly as compared to pre-program levels (from 77 pregnancies per 1,000 women ages 14 through 17 in 1981-1982 to 37 per 1,000 women the same age in 1984-1986).[17,18]
- **Teen pregnancy rates in comparison counties—**When compared to the marked decline that occurred in the intervention portion of the county, no other county's pregnancy rate showed a similar, large decline. Pregnancy rates in the comparison counties ranged from 74 to 90 pregnancies per 1,000 women ages 14 through 17 in 1981-1982 and from 67 to 82 pregnancies per 1,000 women the same age in 1984-1986.[17]
- **Return to a higher teen pregnancy rate after some program components were discontinued—**Reanalysis showed that the pregnancy rate returned to a higher level (66 per 1,000 women ages 14 through 17) in 1987-1988, after the discontinuation of some program components, including the contraceptive services provided by the school nurse during the years 1984-1986.[18]

Replication Evaluation Methodology

In Kansas in 1994-1996, evaluators measured the effects of a replication of the intervention in Geary and Franklin counties. Portions of Wichita were also included in the program, but not in the evaluation, because teenage sexual behavior data were not available for Wichita's youth. In Geary County, the population was 66 percent white, 23 percent black, six percent Hispanic, and four percent Asian. In Franklin County, the population was 97 percent white, two percent Hispanic, and one percent black. Data for Geary and Franklin counties on teen pregnancies and births were compared to data for 20 similar Kansas counties in 1991-1993 (pre-intervention years) and 1994-1996 (intervention years). Youth's sexual behaviors in the intervention counties were compared across the years, using self-reported data for high school students in both counties at the inception of the program (1994) to self-reported data for high school students at the end of the program in Geary County (1997) and near the end of the program in Franklin County (1996). For this later data, evaluators used responses to the 1993 Youth Risk Behavior Survey and the Adolescent Curriculum Evaluation, given in 1994, 1996, and 1997.[19]

Replication Outcomes

- **Behaviors—**
  - **Delayed initiation of sexual intercourse—**In Geary County, students' reports of ever having had sex decreased significantly among males and females in ninth and 10th grades between 1994 and 1997 (down from 51 to 38 percent of females and 63 to 43 percent of males, respectively).[19]
  - **Increased condom use—**In Franklin County, more male students in the upper grades reported using condoms in 1996 (55 percent) than in 1994 (39 percent).[19]

For More Information or to Order, Contact

- **Sociometrics, Program Archive on Sexuality, Health & Adolescence:** Phone, 1.800.846.3475; Fax, 1.650.949.3299; E-mail, pasha@socio.com; Web, http://www.socio.com

Section II. Community-Based Sex Education Programs to Prevent Teen Pregnancy, HIV, and Sexually Transmitted Infections

While school districts throughout the United States provide classes of varying quality and type on sex education, many communities also work to provide programs tailored especially for those youth whose needs are not being adequately met in schools. Community-based programs are usually tailored to meet the particular needs of specific groups in the community. Following are descriptions of eight community-based, sex education programs. Each program demonstrated either a reduction in pregnancy and/or HIV/STI rates and/or an impact on at least two of the following behaviors:

- Postponement or delay of sexual initiation
- Reduction in the frequency of sexual intercourse
- Reduction in the number of sexual partners / increase in monogamy
- Increase in the use of effective methods of contraception and/or condoms
- Reduction in the incidence of unprotected sex

Each of these programs fits the stringent criteria for inclusion in this document, as described in the Introduction on page iv. Program planners interested in implementing an effective, community-based sex education program should explore replicating one of the following eight programs:

1. *Self Center (School-Linked Reproductive Health Services)*
2. *California's Adolescent Sibling Pregnancy Prevention Program*
3. *Adolescents Living Safely: AIDS Awareness, Attitudes and Actions*
4. *Becoming a Responsible Teen*
5. *Children's Aid Society—Carrera Program*
6. *Be Proud! Be Responsible! A Safer Sex Curriculum*
7. *Making Proud Choices!*
8. *Poder Latino: A Community AIDS Prevention Program for Inner-City Latino Youth.*

Self Center (School–Linked Reproductive Health Services)

Program Components

- School-linked health center (SLHC) across the street from a high school and down the street from a junior high school
- Free reproductive and contraceptive health care at the SLHC
- SLHC staff working daily in participating schools
- SLHC staff providing sex education lessons in each homeroom and in the clinic
- Daily hours for individual and group counseling by social worker and/or nurse (SLHC staff) in the school health suite

For Use With

- Junior and senior high school students
- Urban youth
- Black youth
- Economically disadvantaged youth

Evaluation Methodology

- Quasi-experimental design, including treatment and comparison conditions, at four inner-city junior and senior high schools in Baltimore, Maryland
- Urban youth (n=3,646 at baseline; n=2,950 at final follow-up), in grades seven through 12
- Pretest in the fall and follow-up surveys each spring of the next three years

Evaluation Findings

- Delayed initiation of sexual intercourse
- Increased use of reproductive health care prior to initiating sex
- Reduced incidence of unprotected sex
- Increased use of contraception
- Long-term: reduced teen pregnancy rate

> *Evaluators' comments: The rapid effect on clinic use, exerted by an intervention program designed to supplement the basic sex education program already in place, suggests that it was the accessibility of the staff and of the clinic, rather than any "new" information about contraception that encouraged the students to obtain services.*
>
> Source: Zabin LS, Hirsch MB, Smith EA, *et al.* 1986

Program Description

As originally implemented in Baltimore, Maryland, the program is an adolescent health clinic offering reproductive health care—including contraceptive counseling, pregnancy testing, and other medical services and referral—and located very near to junior and senior high schools. It is designed to provide year-round contraceptive and reproductive health services and education to students. In the model program, a team from the clinic, consisting of a nurse practitioner and a social worker, make presentations at least once a year in each homeroom. These discussions deal with services offered in the clinic and with other reproductive and sexual health topics. The clinic staff then spends several hours each day in the school health suite, available to students for counseling or group discussions. In the afternoon, these same health professionals provide services in the reproductive health clinic near the schools. Any student can drop in to talk, to receive counseling / education, or to participate in group discussions. Staff places strong emphasis on developing personal responsibility, setting goals, and communicating with parents. Reproductive health services are available free of charge to students who enroll in the clinic and remain in school. This program is intended to augment basic sex education curricula.[20]

Evaluation Methodology

In evaluation, 1,201 black students in the two participating schools were compared with 1,749 black students with similar backgrounds attending schools not participating in the program. At baseline, the socioeconomic status of participants and comparison youth was similar, and almost 90 percent of youth qualified for the school lunch program. Prior to baseline, almost 92 percent of males and 54 percent of females in ninth grade had initiated sex; about 47 percent of females in seventh and eighth grades had also initiated sex. Among sexually active youth, 56 percent of those in junior high and 73 percent of senior high students reported using contraception at most recent sex.

Evaluation relied on self-administered student surveys—a pretest in the fall before the program began and follow-up surveys in the spring of the succeeding three years.[20]

Outcomes

- **Knowledge—**Over the course of the program, the proportion of participating females who correctly identified the fertile period during the menstrual cycle increased significantly from 30 to 44 percent, versus an increase from 31 to 38 percent among comparison females. [20]
- **Attitudes and perceptions—**The proportion of participating females who believed that less effective contraceptive methods could prevent pregnancy dropped significantly from 38 to 24 percent, relative to a drop from 47 to 44 percent among comparison females. Among male participants, the proportion believing that less effective methods could prevent pregnancy dropped significantly from 53 to 34 percent, while the proportion of comparison males who believed in less effective methods rose from 50 to 60 percent. [20]
- **Behavior—**
  - **Delayed initiation of sexual intercourse**—Significantly more young women who were exposed to the program for three years delayed the initiation of sexual intercourse, by a median of seven months, compared to those not exposed to the program. At age 14, about two-thirds more teenage women had initiated sex before the program started as had done so after three years of exposure to the program. Delay in initiating sex was smaller for young women with only one or two years of exposure to the program. [20]
  - **Increased use of reproductive health care prior to initiating sex**—Significantly more program students attended a family planning clinic before initiating sex and during the first months of sexual activity, compared to non-program youth. [20]
  - **Reduced incidence of unprotected sex**—Use of no contraceptive method at most recent sex was reduced to extremely low levels among young women exposed to the program. Less than 20 percent of these young women failed to use contraception in the months following first coitus. This finding held even among seventh and eighth grade students, whose age is often associated with poor use of contraception. Among comparison young women, up to 49 percent reported no use of contraception. [20]
  - **Increased use of contraception**—Sexually active youth exposed to the program for two years were significantly more likely to report using birth control pills at most recent sex, compared to non-program youth. Program females' reports of pill use rose from 33 to 50 percent, while reports of pill use by comparison females rose only from 33 to 36 percent. [20]

Long-Term Impact

- **Reduced teen pregnancy rate among high school females—**By the program's third and final year, the pregnancy rate among high school students in program schools had dropped by 30 percent, while it had risen by 58 percent among students in non-program schools.[21]
- **Reduced pregnancy rate among younger females—**Among the youngest students, the pregnancy rate decreased slightly in program schools while it increased dramatically in non-program schools.[20,21]

For More Information, Contact

- **Dr. Laurie Schwab Zabin**, School of Hygiene & Public Health, Johns Hopkins University, Phone, 410.955.5753; Fax, 410.955.0792
- **Sociometrics, Program Archive on Sexuality, Health & Adolescence:** Phone, 1.800.846.3475; Fax, 1.650.949.3299; E-mail, pasha@socio.com; Web, http://www.socio.com

California's Adolescent Sibling Pregnancy Prevention Program

Program Components

- Individualized case management
- Sex education, including information on abstinence and contraception

For Use With

- Siblings of pregnant and parenting teens
- Youth at high risk*, ages 11 through 17.25
- Hispanic youth
- Economically disadvantaged youth

Evaluation Methodology

- Quasi-experimental design, including treatment and comparison conditions, at 16 Adolescent Sibling Pregnancy Prevention Program social service agencies across the state of California
- Urban and rural, mostly Hispanic youth, ages 11 through 17.25
- Siblings of pregnant or parenting adolescents; average age 13.5; (n=1,594 at baseline; n=1,466 at follow-up)
- Pretest and follow-up after nine months

Evaluation Findings

- Delayed initiation of sexual intercourse (females only)
- Increased use of contraception (males only)
- Long-term: reduced teen pregnancy rate

> *Evaluators' comments: California's special sibling program was effective at reducing the pregnancy rate and several pregnancy-related behaviors in this high risk sample** ... *Although such specially targeted programs are certainly a challenge to implement, they hold great promise for significantly lowering rates of teenage pregnancy and births.*
>
> Source: East P, Kiernan E, Chavez G, 2003

Program Description

In 1996, California created the *Adolescent Sibling Pregnancy Prevention Program* (ASPPP). Operating at 44 nonprofit social service agencies, community-based organizations, school districts, and county health departments throughout California, the program targets the brothers and sisters of pregnant and parenting teens. Each program site provides a combination of services, including individual case management, academic guidance, decision-making skills, job placement, self-esteem enhancement, and sex education, including information on abstinence and contraception. The overall goal of the program is to reduce rates of teen pregnancy among young adolescents.[22]

No specific program services are required of providers other than to have at least one face-to-face contact with each client each month. Program personnel are expected to implement a variety of services to prevent pregnancy and related risk behaviors. Sample programs offer: counseling about abstinence and contraception; access to quality reproductive health care; transportation to health care facilities; incentives to avoid sexual risk-taking; tutoring; assistance with library research; advocacy at expulsion and court hearings; assistance in meeting with teachers, school administrators, and counselors; help in acquiring medical insurance; access to sports; education about media messages regarding body image and sexual behavior; field trips; and group activities to improve social skills and social competency.[22]

Evaluation Methodology

When evaluation began, approximately 3,300 youth were participating in ASPPP at all the program sites across the state. Sixteen sites were selected to participate in the evaluation. The 16 sites served 1,011 youth (31 percent) participating in ASPPP. Sites were chosen on the basis of being representative geographically, by area of residence (urban or rural), and by clients' age and race / ethnicity. Overall, clients at chosen sites were more likely than all ASPPP clients to be urban, Hispanic, and younger than average; however, the gender breakdown was identical to overall gender representation in ASPPP (60 percent female, 40 percent male).[22]

* In this program, high risk teens were defined as those who had full or half siblings who had been pregnant or were parents and who participate in California's CAL-LEARN program

Evaluation involved a group of current participants and a comparison group of youth not in ASPPP. Overall, 1,594 youth were enrolled in the evaluation: 1,011 ASPPP participants and 583 comparison youth. All youth (participants and comparisons) were ages 11 to 17.25, had never been pregnant or caused a pregnancy, and were the biological teenage sibling (half or full sibling) of another teen who was pregnant or parenting and enrolled in California's Adolescent Family Life Program. Adolescents in the participating group also had to be currently enrolled in ASPPP. Comparison youth were usually identified through providers' existing caseloads, since providers were normally familiar with the families and siblings of teens already enrolled in their programs. Neither comparison youth nor their siblings could ever have been enrolled in ASPPP. Posttest data were collected nine months after enrollment from 1,271 adolescents. In final evaluation, the information from 731 program participants was compared with a weighted sample of 735 comparison youth. [22]

Characteristics of program and comparison groups included the following: program youth were 77 percent Hispanic, 10 percent black, eight percent white, and five percent "other." Comparison youth were 71 percent Hispanic, 11 percent black, nine percent white, and nine percent other. The groups differed in that 59 percent of ASPPP youth spoke Spanish at home while 46 percent of comparison youth did so. Sixty-six percent of participating youth had a family that currently received public assistance, while 75 percent of comparison youth did so. Youth were mostly urban (71 percent of participants and 70 percent of comparison youth) or rural (17 and 18 percent, respectively). Slightly over half lived in two-parent households. Mean age of all youth participating in the evaluation was 13.5 for participants, 13.6 for comparison youth; mean grade in school was eighth. The program was assessed using data from an enrollment survey and a posttest at nine months after enrollment. [22]

Outcomes

- **Attitudes and perceptions—**At nine months posttest, participating females scored significantly higher than comparison females on intentions to practice abstinence. [22]
- **Behaviors—**
  - **Delayed initiation of sexual intercourse—**A significantly lower proportion of participating females than comparison females initiated sex over the nine-month study period (seven and 16 percent, respectively). [22]
  - **Increased consistency in contraceptive use—**Sexually active participating males were significantly more likely than sexually active comparison males to have increased their consistency of contraceptive use. Over time, comparison males were more likely to decrease their consistent use of contraceptives. [22]
  - **Decreased rate of truancy—**Program females' frequency of truancy (staying out of school without permission) declined from pretest to posttest while it rose among comparison females. [22]

Long-Term Impact

- **Decreased teen pregnancy rate—**A significantly lower proportion of participating than comparison females experienced pregnancy during the nine-month study period. The reduced pregnancy rate among participating females versus comparison females (four and seven percent, respectively) translates into a 43 percent reduction in teenage pregnancy. [22]

For More Information, Contact

- **California Department of Health Services, Maternal & Child Health Branch**: 714 P Street, Room 750, Sacramento, CA 95814; Phone: 916-657-2233

Adolescents Living Safely: AIDS Awareness, Attitudes, and Actions

Program Components

- HIV prevention program to augment traditional services available at shelters for runaway youth
- 30 discussion sessions, for small groups, each session lasting one-and-a-half to two hours
- Includes experiential activities to build cognitive and coping skills
- Health care, including mental health services
- Intensive training of shelter staff

For Use With

- Runaway youth
- Youth living in city shelters
- Multiethnic populations*
- Urban youth, ages 11 to 18

Evaluation Methodology

- Quasi-experimental design, involving a non-randomized control trial at two residential shelters in New York, New York
- Urban, runaway youth (n=197 at baseline; n=145 at follow-up) living in shelters; average age, 15.5
- Baseline interview and reassessment at three and six months after baseline
- Participants received monetary incentives for participating in interviews

Evaluation Findings

- Reduced frequency of sex
- Reduced number of sexual partners
- Increased condom use

> *Evaluators' comments: This study…has potentially important implications. First, adolescents do change their behaviors in response to an intensive intervention… Second, these data indicate that programs designed to prevent HIV infection need to provide more than the two or three sessions currently being implemented with adolescents.*
>
> Source: Rotheram-Borus MJ, Koopman C, Haignere C, *et al.* 1991

Program Description

The goal of this intervention is to promote behavior change to prevent HIV infection among runaway youth, ages 11 to 18. The program is designed to augment traditional services available at shelters for runaway youth. An important program component is small group discussions, designed to develop and improve interpersonal skills, promote behavioral self-management, increase HIV prevention knowledge, and provide peer support for HIV preventive behaviors. Because the program targets runaways, a group experiencing many stressful life events and highly unstable living arrangements, the program also provides access to ongoing physical and mental health care. Shelter staff receives intensive training in intervention techniques. The intervention is based on successful programs targeting other adolescent health risk behaviors (e.g., cigarette smoking) and/or HIV prevention among adult men who have sex with men—programs that have demonstrated the effectiveness of skills training, behavioral self-management, and group and social support from peers. [23]

Evaluation Methodology

Runaways were recruited at two residential shelters in New York City. Seventy-nine runaways at the non-intervention site and 118 runaways at the intervention site volunteered to participate. Ninety-eight percent of runaways were from the New York metropolitan area. Each youth was paid $2.00 for participating in the initial assessment and $20 to $25 for each follow-up interview. During six months, 145 runaways received a three- and/or a six-month follow-up interview (78 intervention participants and 67 non-intervention youth). About 64 percent of participants were female; nearly 36 percent were male. Sixty-three percent were black; 22 percent were Hispanic; eight percent were white; the rest identified as "other." The youth ranged in age from 11 to 18 years (median age, 15.5). Most runaways identified as heterosexual (93 percent of males, 99 percent of females). [23]

* Populations in the evaluation included mostly black and Hispanic youth, but also white youth.

Runaways at the two sites did not differ significantly in age, gender, race / ethnicity, or length of time since living at home. The duration of runaways' stay in the shelters varied because of the availability of permanent housing in group homes and independent living situations; however, the median length of stay was 37 days (range, one to 214 days). At baseline, 19 percent of comparison youth and 25 percent of intervention youth reported high risk patterns of behavior, including multiple sexual partners. At baseline, 24 percent of sexually experienced runaways reported consistent condom use in the past three months. The only sexual behavior that was significantly related to age at baseline was abstinence—48 percent of younger runaways (ages 11 to 15) and 23 percent of older runaways (ages 16 to 18) had been sexually abstinent in the preceding three months.[23]

Outcomes

- **Behaviors—**
  - **Reduced frequency of sex and number of sexual partners—**The number of sessions attended by participants was significantly associated with a reduction in high-risk pattern (frequency of sex and number of sexual partners in the past three months) reported by participants at three- and six-month follow-up. For sexually experienced runaways, attending 15 or more sessions was significantly associated with a reduction from 20 percent at baseline to zero percent at three- and six-month follow-up. Receiving no intervention (comparison youth) or as many as two sessions of the intervention was associated with an increase in such behaviors (from 17 to 20 percent) at six-month follow-up. Receiving three to 14 sessions was associated with a decrease in such behaviors (from 30 to 18 and from 28 to 10 percent, respectively) at six-months follow-up. [23]
  - **Increased condom use—**Runaways who received 15 or more of the sessions were significantly more likely to be consistent condom users at three- and six-month follow-up, compared to youth who received fewer sessions or to non-intervention youth. Among sexually experienced runaways who received 15 or more sessions, consistent condom use rose from 33 percent at baseline to 57 percent at three-month and 63 percent at six-month follow-up. However, among sexually experienced runaways who attended fewer than 15 sessions, condom use increased and decreased in a discouraging pattern, with reported condom use at six-months follow-up only slightly higher than at baseline for those attending 10 to 14 sessions, and less than baseline for those attending fewer than 10 sessions and for comparison youth. [23]
  - **Timing of sexual initiation unaffected—**Receiving the intervention had no significant effect on reported abstinence, neither hastening nor delaying the onset of sexual activity. Findings showed that abstinence at baseline was associated with abstinence at three- and six-month follow-up.[23]

For More Information or to Order, Contact

- **Sociometrics, Program Archive on Sexuality, Health & Adolescence:** Phone, 1.800.846.3475; Fax, 1.650.949.3299; E-mail, pasha@socio.com; Web, http://www.socio.com

Becoming a Responsible Teen

Program Components

- HIV prevention, sex education, and skills training curriculum
- Eight sessions, each lasting one-and-a-half to two hours, delivered once per week
- Includes experiential activities to build skills in assertion, refusal, problem solving, risk recognition, and condom use
- Designed for single-sex groups of youth, each group facilitated by both a female and a male leader

For Use With

- African American youth
- Youth ages 14 to 18
- Urban youth

Evaluation Methodology

- Experimental design, including treatment and control conditions, in Jackson, Mississippi
- Urban, African American youth (n=246 at baseline; n=225 at 12-month follow-up); mean age 15.3
- Pretest and follow-up assessment at two, six, and 12 months post intervention

Evaluation Findings

- Delayed initiation of sexual intercourse
- Reduced frequency of sex
- Decreased incidence of unprotected sex
- Increased condom use
- Cessation of unprotected anal intercourse

> *Evaluators' comments: Clearly, the more explicit intervention did not promote increased sexual activity or accelerate onset of sexual activity. Instead, the skills training intervention appears to have both lowered rates of sexual activity among youth who were sexually active and deterred the onset of sexual activity for youth who were still abstinent at program entry.*
>
> Source: St. Lawrence JS, Brasfield TL, Jefferson KW, *et al.* 1995

Program Description

Becoming a Responsible Teen is a culturally appropriate, HIV prevention curriculum designed especially for African American adolescents in non-school, community-based settings. Consisting of eight, one-and-a-half to two-hour sessions, *Becoming a Responsible Teen* combines HIV/AIDS education with behavioral skills training, including assertion, refusal, self-management, problem solving, risk recognition, and correct condom use. Teens learn to clarify their own values about sexual decisions and to practice skills to reduce sexual risk-taking. Based on social learning and self-efficacy theories, the curriculum's primary goal is promoting safer sexual behaviors. It encourages teens to share what they have learned and to practice their skills outside the group setting. It utilizes interactive sessions, including games, role-playing, discussions, and videos. The intervention is intended for use with gender-specific groups, each facilitated by both a male and a female group leader.[24] This program is among those that were chosen by the Centers for Disease Control and Prevention for its compendium of "Programs-that-Work."[5]

Evaluation Methodology

In the evaluation study, 246 African American youth, attending a comprehensive health center serving predominantly low-income, minority clients, were randomly assigned, over a three-year period, to either a two-hour HIV prevention educational program that met one time or to a more sexually explicit, eight-week, education plus behavioral skills training intervention (*Becoming a Responsible Teen*). Participants met in gender-specific groups of five to 15 youth. Participants' mean age was 15.3 years; average school grade was 9.7; 72 percent were female. Participants reported an average of nearly three lifetime sex partners and two sex partners within the previous 12 months. Average age at first sexual intercourse was 12.9 years; and 13 percent of participants already had one or more children. Nearly nine percent of participants had been diagnosed with an STI within two months of their recruitment into the study. Over the course of three

years, 14 repetitions of the interventions (eight sessions each) and control intervention (one session each) were conducted. Evaluation relied on pretest and follow-up assessments at two, six, and 12 months after the intervention.[24]

Outcomes

- **Knowledge—**Although intervention and control groups received the same basic informational component, the intervention group scored higher on HIV/AIDS knowledge at both posttest and 12-month follow-up.[24]
- **Skills—**Youth from the intervention group demonstrated more skill in handling pressure to engage in unprotected sex and in providing information to peers than did control youth. Specifically, intervention youth more often acknowledged their partner's wishes, provided a rationale for their refusal, stressed the need for safety, and recommended safer alternatives than did those in the control group.[24]
- **Behavior—**
  - **Delayed initiation of sexual intercourse—**Of the youth who were sexually abstinent prior to the intervention, less than 12 percent of youth who received the education plus skills training had initiated sex one year later, compared to 31 percent of control youth.[24]
  - **Reduced incidence of sex—**Among sexually experienced youth, 42 percent of control youth reported continuing to have sex across the following year, compared to 27 percent of skills trained youth.[24]
  - **Reduced incidence of unprotected sex—**Females in the intervention group reported a relatively low level of unprotected sexual intercourse at pre-intervention (compared to intervention males). Unprotected sexual intercourse remained at stable, low levels for intervention females across the following year, whereas levels of unprotected sexual intercourse rose among control females and were significantly higher among control females at 12-month follow-up. Sexually experienced male participants significantly reduced the frequency of unprotected vaginal intercourse from pre-intervention at all subsequent assessment. Sexually experienced male participants were also less likely to report engaging in unprotected anal intercourse, than were control males—a change that continued at six- and 12-months follow-up.[24]
  - **Increased condom use—**Sexually experienced male participants were significantly more likely to report using condoms at post-intervention than were control youth (82.9 percent of the time versus 61 percent of the time, respectively) and remained higher throughout the following year, while control youth reported less condom use.[24]
  - **Cessation of unprotected anal intercourse—**Both male and female intervention youth reported entirely discontinuing unprotected anal intercourse.[24]

For More Information or to Order, Contact

- **ETR Associates**: Phone, 1.800.321.4407; Fax, 1.800.435.8433; Web, http://www.etr.org/

Children's Aid Society—Carrera Program

Program Components

- Youth development program
- Daily after-school activities, lasting three to five hours, and including
  - Job club / career exploration
  - Academic tutoring and assistance
  - Comprehensive sex education, including information about abstinence and contraception
  - Arts workshops
  - Individual sports activities
- Summer program, offering enrichment activities, employment assistance, and tutoring
- Comprehensive health care, including primary, mental, dental, and reproductive health care
- Family involvement
- Interpersonal skills development
- Access to social services

For Use With

- Youth at risk*
- Socioeconomically disadvantaged youth
- Urban youth, ages 13 through 15
- Black and Hispanic youth

Evaluation Methodology

- Experimental design, including treatment and control conditions, in seven community-based service agencies in New York City
- Urban youth ages 13 through 15 (n=600 at baseline; n=484 at three-year follow-up)
- Pre-test and annual follow-up in each of three succeeding years

Evaluation Findings

- Delayed initiation of sexual intercourse (females only)
- Increased resistance to sexual pressure (females only)
- Increased use of dual methods of contraception (females only)
- Long-term: reduced rates of teen pregnancy

> *Evaluators' comments: Our study clearly documents the effectiveness among females of a comprehensive program to prevent adolescent pregnancy. Although our analyses cannot determine the relative importance of the model's components, the philosophy, structure, and specific staff roles may each contribute to the successful long-term relationships that a large proportion of the young people formed with the program and its staff.*
>
> Source: Philliber S, Williams Kaye J, Herrling S, *et al.* 2002

Program Description

This is a sex education, pregnancy prevention, and youth development program for urban youth considered to be at high risk. The comprehensive intervention rests on six principles: 1) staff treats young participants as if they were family; 2) staff views each young person as pure potential; 3) the program offers holistic services and comprehensive, integrated case management; 4) the program includes continuous, long-term contact with participants; 5) the program involves parents and family; and 6) all services are available under one roof in a non-punitive, gentle, generous, and forgiving environment. The program has five activity components and two service

* Risk is defined in the evaluation of this program as "disadvantaged, inner-city populations" of youth who were not already enrolled in an after-school program and were neither pregnant nor parenting at enrollment.

components. Activity components include 1) the job club—offering stipends, help with bank accounts, employment experience, and career awareness; 2) academics—including individual assessment, tutoring, PSAT and SAT preparation, and assistance with applying to colleges; 3) comprehensive family life and sexuality education; 4) arts—including weekly music, dance, writing, or drama workshops; and 5) individual sports activities that emphasize impulse control, such as squash, golf, and swimming. The two service components are 1) mental health care and 2) medical care, including reproductive health care, primary care, and dental care.[25]

Throughout the school year, program activities run all five weekdays, generally for about three hours per day. Participants are divided into groups which rotate among the five major activities offered. One group might receive sex education on Tuesdays and Thursdays, for example, while another group attends Job Club. On Monday and Wednesday, the groups would be reversed. Most students participate in sports and creative activities at least once a week and receive academic assistance daily. Over the summer, program activities include maintenance meetings to reinforce youth's sex education and academic skills. During the summer, participants also receive job assistance and participate in social events, recreational activities, and cultural trips.[25]

Evaluation Methodology

A multi-site evaluation compared youth in the Children's Aid Society—Carrera Program to youth recruited at six other service agencies throughout New York City. Youth were randomly assigned to the Children's Aid Society—Carrera Program or to an alternative program. At most sites, the alternative was the agency's regular program for youth. Young people (n=484) ranged in age from 13 to 15. Fifty percent of participants were male. Among females, 54 percent of participants were black and 46 percent were Hispanic; among males, 47 percent were black and 53 percent were Hispanic. The majority of the youth (55 percent) lived in single parent homes. The program's effectiveness was assessed using annual surveys.[25]

Outcomes

- **Knowledge—** Overall after three years, program participants' knowledge of sexual health issues rose by 22 percent, compared to 11 percent among control youth, a statistically significant difference. Male participants showed higher sexual health knowledge gains than did control males (18 and six percent, respectively).[25]
- **Behavior—**
  - **Delayed initiation of sexual intercourse—**Program young women were significantly less likely than control females to have ever had sex—46 percent had never had sex versus 34 percent of control females.[25]
  - **Increased resistance to sexual pressure—**Females in the program were significantly more likely than those in the control group to say they had successfully resisted pressure to have sex (75 percent and 36 percent, respectively).[25]
  - **Increased use of dual methods of contraception—**Sexually experienced program females were significantly more likely than control females to have used a condom along with a highly effective method of contraception (i.e., the pill, the injectable, or the implant) at most recent sex (36 percent and 20 percent, respectively).[25]
  - **Increased receipt of good health care—**Both male and female participants had significantly increased odds of receiving good health care. Among sexually experienced males, the proportion who had made a visit for reproductive health care was significantly higher among program than control males (74 and 46 percent, respectively).[25]
  - **Other findings related to young men—**Overall, program males showed no positive, significant behavioral differences relative to control males, except increased receipt of good health care. On the other hand, program males were less likely than control males to report use of dual methods of contraception at most recent sex. Researchers speculated that the program effects may have been weaker among young men, in part because 1) young men who had initiated sex prior to enrolling in the program were the least likely to attend regularly; 2) strong social norms among these inner-city young males might stress the benefits of early sexual intercourse and parenthood; and 3) program males may not have repeated the program's messages to their non-enrolled female partners. The data suggest that reaching young men sooner may strengthen outcomes, and, as a result, the Children's Aid Society has begun implementing programs with 11- and 12-year-old youth.[25]

Long-Term Impact

- **Reduced rates of teen pregnancy—**At third-year follow-up, females in the Children's Aid Society—Carrera Program had significantly lower rates of pregnancy and births than did control females.[25]

For More Information, Contact

- **Children's Aid Society**, 105 East 22nd Street, New York, NY 10010; Phone, 212.949.4800; Web, http://www.childrensaidsociety.org

Be Proud! Be Responsible! A Safer Sex Curriculum

Program Components

- HIV prevention curriculum
- Six sessions, each lasting 50 minutes
- Includes experiential activities to build skills in negotiation, refusal, and condom use
- Educator training is recommended

For Use With

- Black male youth
- Urban 13- to 18-year-old youth

Evaluation Methodology

- Experimental design, including treatment and control conditions, in Philadelphia, Pennsylvania
- Urban male teens (n=157 at baseline; n=150 at follow-up), recruited from multiple venues; mean age 14.6
- Participants received a monetary incentive for participating
- Pretest, posttest, and three-month follow-up survey

Evaluation Findings

- Reduced frequency of sex
- Reduced number of sexual partners
- Reduced number of female partners also involved with other men
- Increased condom use
- Reduced incidence of heterosexual anal intercourse

> *Evaluators' comments: These results provide scant support for the view that matching the gender of facilitator and intervention participants enhances the effectiveness of AIDS interventions with black male adolescents.*
>
> Source: Jemmott, Jemmott, & Fong, 1992

Program Description

This five-hour, six-part intervention aims to prevent HIV and other STIs by improving HIV-related knowledge, attitudes, and behaviors among adolescents ages 13 to 18. As such, it also addresses sexual behaviors related to pregnancy prevention, including avoiding risky situations, using condoms, and being monogamous. Through discussion in small groups of six to 12, participants learn the risks of injected drug use and unsafe sexual behaviors. Videos, role-playing, games, and exercises reinforce learning and encourage participation. Educators may receive advance training in the delivery of this program. This intervention is based on three theories of health behavior change: social cognitive theory, the theory of reasoned action, and the theory of planned behavior.[26] This program is among those chosen by the Centers for Disease Control and Prevention for its compendium of "Programs-that-Work."[5]

The program is culturally appropriate for inner city, black youth. It builds on young people's sense of community and addresses the importance of protecting one's community, as well as oneself, against the potentially negative consequences of unprotected sexual intercourse. The curriculum addresses youth's self-esteem and self-respect by emphasizing that it feels good to make proud and responsible safer sex decisions.[26,27]

Evaluation Methodology

Participants (n=157) were black males from Philadelphia, mean age 14.6 years, recruited from among 1) the outpatients at a medical clinic (44 percent); 2) students in a 10th, 11th, and 12th grade assembly in a local high school (32 percent); and 3) youth attending a local YMCA (24 percent). Most participants were enrolled in school (97 percent). Few participants reported sharing needles (five percent), having receptive anal intercourse (two percent), or sexual relationships exclusively with males (two percent) or with both males and females (one percent). Youth's chief HIV risk was from heterosexual activities. Thirty-four percent reported more than one coital partner in the past three months and about 21 percent of those youth reported never using condoms. Only 30 percent of currently sexually active youth

reported always using condoms. Risk behaviors did not vary significantly by recruitment venue. The young men completed a 90-minute pre-intervention questionnaire and were randomly assigned to the HIV/AIDS risk reduction intervention or to a comparison intervention focused on career opportunities. Afterwards, youth completed a posttest and another follow-up survey three months later. Participants were paid $15.00 for participating in the intervention and $25.00 for participating in the follow-up survey.[26]

Outcomes

- **Knowledge—**Intervention participants had greater knowledge of HIV/AIDS immediately after the intervention and at three-month follow-up than did control youth.[26]
- **Attitudes and perceptions—**At posttest and at three-month follow-up, intervention participants reported weaker intentions to engage in unsafe sexual behavior in the next three months than did control youth.[26]
- **Behaviors—**
  - **Reduced frequency of sex—**Intervention participants were significantly less likely than control youth to report coitus in the three months following the intervention and reported coitus on fewer days than did control youth (2.15 versus 5.48 days).[26]
  - **Reduced number of sexual partners—**Intervention participants reported significantly fewer sexual partners than did control youth in the three months following the intervention (.85 versus 1.79).[26]
  - **Reduced number of female partners also involved with other men—**Intervention participants reported significantly fewer female partners also involved with other men than did control youth in the three months following the intervention (.19 versus 1.75).[26]
  - **Increased use of condoms—**Intervention participants reported significantly fewer acts of sexual intercourse without the use of condoms than control youth in the three months following the intervention. (In evaluation, where five = always using condoms, participants' reports = 4.35; controls = 3.50.)[26]
  - **Reduced incidence of heterosexual anal intercourse—**Intervention participants reported less heterosexual anal intercourse than control youth in the three months following the intervention (0.7 versus .27).[26]
- **Findings related to the gender of the facilitator—**
  - **Attitudes—**Intervention participants who received the intervention with a trained female facilitator had less favorable attitudes towards unsafe sexual behavior compared to participants who received the intervention with a trained male facilitator and to youth in the non-program, control group.[26]
  - **Behaviors—**Receiving the intervention with a female facilitator was more effective in reducing HIV risk behaviors among the young men than was receiving it with a male facilitator. Specifically, significant differences emerged in frequency of coitus or coitus without a condom and on young men's reports of heterosexual anal intercourse in the previous three months.[26]

For More Information or to Order, Contact

- **Select Media**: Phone, 1.800.707.6334; Web, http://www.selectmedia.org
- For educator training, contact **ETR Associates**: Phone, 1.800.321.4407; Fax, 1.800.435.8433; Web, http://www.etr.org

Making Proud Choices!

Program Components

- HIV prevention curriculum emphasizing safer sex, including information about both abstinence and condoms
- Eight culturally appropriate sessions, each lasting 60 minutes
- Includes experiential activities to build skills to delay initiating sex and to communicate with partners and, among sexually active youth, to use condoms
- Educator training is recommended

For Use With

- African American youth, ages 11 to 13
- Middle school students / sixth and seventh graders
- Urban youth

Evaluation Methodology

- Experimental design, including a randomized, controlled trial in Philadelphia, Pennsylvania
- Urban, African American youth in sixth and seventh grades (n=659 at baseline; n=610 at 12-month follow-up); mean age 11.8
- Pretest and follow-up after three, six, and 12 months
- Participants received monetary incentives for participation in the program

Evaluation Findings

- Delayed initiation of sexual intercourse
- Reduced frequency of sex
- Reduced incidence of unprotected sex
- Increased condom use

> *Evaluators' comments: Our findings that the safer sex intervention curbed unprotected sexual intercourse, whereas the abstinence intervention did not, suggests that if the goal is reduction of unprotected sexual intercourse, the safer sex strategy may hold the most promise, particularly with those adolescents who are already sexually experienced. Moreover, safer sex interventions may have longer lasting effects than abstinence interventions.*
>
> Source: Jemmott JB, Jemmot LS & Fong GT, 1998

Program Description

This HIV risk reduction curriculum for urban, African American youth, ages 11 to 13, acknowledges that abstinence is the best choice, but emphasizes the importance of condoms to reduce the risk of pregnancy and STIs, including HIV, if participants choose to have sex. The intervention is based on social cognitive theory and the theories of reasoned action and of planned behavior.[28] This program is among those chosen by the Centers for Disease Control and Prevention for its compendium of "Programs-that-Work."[5]

The intervention consists of eight, one-hour modules. Designed to be educational, entertaining, and culturally sensitive, *Making Proud Choices!* involves group discussion, videos, games, brainstorming, experiential exercises, and activities to build skills. The curriculum also incorporates themes from *Be Proud! Be Responsible!* (see page 30), encouraging participants to take pride in themselves and their community, to behave responsibly for their own sake and for the sake of their community, and to consider their goals for the future and how unhealthy behavior might thwart those goals.[28]

Evaluation Methodology

In evaluation, trained facilitators tested the effects of *Making Proud Choices!*—which emphasizes the importance of condoms to reduce the risk of pregnancy and STIs, including HIV—against a similarly structured, abstinence-focused curriculum that emphasized abstinence but also acknowledged that condoms can reduce risk for HIV and other STIs as well as against another health curriculum unrelated to sexuality. Participants (n=659) were African American adolescents (mean age 11.8 years), recruited from sixth and seventh grade

classes of three middle schools serving low-income, African American communities in Philadelphia, Pennsylvania. About 53 percent were female; 27 percent of the youth lived with both parents. On the pre-intervention questionnaire, 25 percent of respondents reported ever having had sexual intercourse and 15 percent, having had sex in the previous three months. Less than two percent of respondents reported same-gender sexual relationships. Adolescents were paid up to $100 for participating: $40 at the end of the two-session interview and an additional $20 for each of three follow-up interviews. Adult facilitators were 25 African Americans (mean age 39.5), skilled in working with adolescents and trained for 2.5 days in the intervention to which they had been randomly assigned. Peer facilitators were 45 Philadelphia high school students (mean age 15.6 years) who had a three-day intensive leadership training retreat on basic facilitation skills. The effectiveness of the interventions was measured at three-, six-, and 12-month follow-up. [28]

Outcomes

- **Knowledge—**Evaluation showed that participants in both the abstinence-focused and the safer sex curricula increased their HIV prevention knowledge significantly more than did control youth. In addition, youth in the safer sex intervention scored significantly higher in knowledge of HIV prevention than did the youth in the abstinence-focused intervention. Adolescents in the safer sex intervention also scored significantly higher on condom use knowledge than abstinence-focused or control youth. [28]
- **Attitudes—**
  - Findings showed that both abstinence-focused and safer sex intervention participants increased significantly more than control youth in their belief in their ability to choose abstinence. [28]
  - Adolescents in the abstinence-focused intervention believed more strongly that practicing abstinence would prevent pregnancy and expressed less favorable attitudes toward sexual intercourse, compared to those in the safer sex or control groups. [28]
  - Adolescents in the safer sex intervention scored significantly higher on attitudes about condoms and in confidence that they could acquire and use condoms, compared to abstinence-focused or control groups. [28]
- **Behaviors—**
  - **Delayed initiation of sexual intercourse—**Among youth who had never had sex at the time of the intervention, abstinence-focused intervention participants were significantly less likely than were control youth to report having sex in the three months after the intervention (odds ration = .26) and marginally less likely than safer sex intervention participants (odds ration = .32) who were also less likely than control youth to report having initiated sex. Abstinence-focused youth were not significantly less likely to report having had sex than were control youth at six- or 12-month follow-up (17.2 versus 22.7 percent; 20.0 versus 23.1 percent) and marginally less likely than the safer sex intervention participants.[28]
  - **Reduced frequency of sex—**Among youth who reported sexual experience at baseline, the safer sex intervention group reported less sexual intercourse in the previous three months at both six- and 12-month follow-up than did either control or abstinence-focused intervention participants (adjusted mean days over the prior three months, 1.34 versus 3.77 for control youth and 3.03 for abstinence-focused youth). [28]
  - **Reduced incidence of unprotected sex—**Among youth who had reported sexual experience at baseline, the safer sex intervention group reported significantly less unprotected intercourse than did controls at six- and 12-month follow-up. (adjusted mean days, 0.04 versus 1.85, respectively). The intervention had no significant effect on unprotected sexual intercourse among participants who had never had sex at baseline. [28]
  - **Increased condom use—**Among sexually experienced youth, safer sex intervention participants reported significantly more consistent condom use than did control youth at three months follow-up (odds ratio=3.38) or abstinence-focused intervention participants (odds ratio=3.01) and higher frequency of condom use at all follow-up points.[28]

For More Information or to Order, Contact

- **Select Media**: Phone, 1.800.707.6334; Web, http://www.selectmedia.org
- For information regarding training, contact **ETR**: Phone, 1.800.321.4407; Fax, 1.800.435.8433

Poder Latino: A Community AIDS Prevention Program for Inner–City Latino Youth

Program Components

- Peer education workshops on HIV awareness and prevention and peer-led group discussions in various settings in the community
- Peer-led efforts to make condoms available via door-to-door and street canvassing
- Presentations at major community events
- Radio and television public service announcements (PSAs)
- Posters in local businesses and public transit
- Quarterly newsletter produced by the peer educators
- Extensive training for peer educators
- Length of intervention—18 months

For Use With

- Latino adolescents, ages 14 -19
- Urban youth

Evaluation Methodology

- Quasi-experimental design, including treatment and comparison conditions
- Latino teens (n=586 at baseline; n=536 at follow-up) in Boston, Massachusetts (intervention community) and Hartford, Connecticut (control community); ages 14 to 20
- Pretest and 18-month follow-up

Evaluation Findings

- Delayed initiation of sexual intercourse (males)
- Reduced number of sexual partners (females)

> *Evaluators' comments: Evaluation of an HIV prevention program that included the promotion and distribution of condoms provided no evidence to suggest that the availability of condoms increased sexual activity or promoted promiscuity… Adolescents in the intervention city who were not sexually active prior to the intervention were no more likely to become sexually active than those in the comparison city. In fact, male respondents in the intervention city were less likely than those in the comparison city to experience the onset of sexual activity.*
>
> Source: Sellers DE, McGraw SA & McKinlay JB, 1994

Program Description

This multifaceted, community-wide intervention is designed to increase HIV / AIDS awareness and to reduce the risk of HIV infection by increasing condom use among sexually experienced Latino teens. Activities are led by specially trained peer leaders and include workshops in schools, community organizations, and health centers; group discussions in the homes of Latino youth; presentations at community-wide events; and door-to-door and street corner canvassing to make available both condoms and pamphlets on how to use them. Radio and television PSAs, posters in local businesses and public transit facilities, and a quarterly newsletter published by the peer leaders provide messages promoting the use of condoms.[29]

Evaluation Methodology

In the 18-month intervention, trained, bilingual staff completed baseline and post-intervention interviews among Latino youth (n=536) in Boston, Massachusetts (intervention site) and in Hartford, Connecticut (comparison site). Adolescents were identified in two ways. First, many Latino youth participated in a smoking prevention project begun three years earlier. Members of the households of these teens were screened for eligibility in the evaluation of *Poder Latino*. Second, city blocks were identified in which at least 20 percent of households had Latino residents. Bilingual researchers then screened the selected blocks for eligible Latino youth, who were then interviewed either in-home (under circumstances that protected youth's confidentiality) or by phone, in cases where in-home visits could not be scheduled. Initial personal interviews were completed with 586 Latino teens, ages 14 through 19, and follow-up interviews with 536.[29]

This evaluation used an infection probability model to estimate youth's risk for HIV infection. Latino youth were classified for analysis as 1) never having had vaginal or anal intercourse; 2) sexually experienced but not having had vaginal or anal intercourse in the past six months; 3) sexually experienced and having had vaginal or anal intercourse in the past six months. Youth were then placed into risk groups. Teens were considered at high risk if they reported needle sharing, anal intercourse, or sex with a prostitute, a bisexual or homosexual man, or an intravenous drug user. Teens were considered at moderate risk if they reported using a condom inconsistently and had vaginal sex in the past six months. Teens were considered at no risk if they reported no sexual activity or needle sharing during the previous six months. Ninety-four percent of the youth were Puerto Rican; 48 percent reported never having had sex at baseline. Nearly all of the 46 youth considered to be at high risk were female (43 of 46).[29,30]

Outcomes

- **Behaviors—**
  - **Delayed initiation of sexual intercourse—**At 18-month follow-up, males in the intervention community (Boston) were less likely than males in the comparison community (Hartford) to have initiated sexual intercourse (odds ratio=.08). The intervention did not significantly increase or decrease the odds of females initiating sex.[29]
  - **Reduced number of sexual partners—**At 18-month follow-up, female teens in the intervention community were significantly less likely to report multiple sexual partners in the last six months, compared to females in the comparison community (odds ratio=.06).[29]
  - **Increased likelihood of possessing a condom—**Sexually active male and female youth in the intervention community were more than twice as likely to have a condom in their possession at 18-month follow-up as were youth in the comparison community (odds ratio=2.3 and 2.0 greater for males and females, respectively).[29]
  - **Frequency of sex unaffected—**The intervention did not significantly affect the frequency of sex for either male or female participants, relative to comparison youth.[29,30]

For More Information or to Order, Contact

- **Sociometrics Program Archive on Sexuality, Health & Adolescence**: Phone, 1.800.846.3475; Fax, 1.650.949.3299; E-mail, pasha@socio.com; Web, http://www.socio.com

Section III. Other Programs to Prevent Teen Pregnancy, HIV, and Sexually Transmitted Infections

Careful evaluation has identified some programs that provide little or no sex education, yet nevertheless have a positive impact on sexual health outcomes among teens. Three such programs are included in this section. These programs achieved significant health outcomes while relying on a "youth development" approach, providing either social competency, school readiness, and/or skills training for young children or service learning opportunities for adolescents. All three are school-based programs.

Each program demonstrated either a reduction in pregnancy and/or HIV/STI rates or an impact on at least two of the following behaviors:

- Postponement or delay of sexual initiation
- Reduction in the frequency of sexual intercourse
- Reduction in the number of sexual partners / increase in monogamy
- Increase in the use of effective methods of contraception and/or condoms
- Reduction in the incidence of unprotected sex

Each of these programs fits the stringent criteria for inclusion in this document, as described in the Introduction on page iv. Educators interested in implementing effective youth development programs in the school setting should explore replicating one of these programs:

1. *Seattle Social Development Project*
2. *Abecedarian Project*
3. *Teen Outreach Program*

Seattle Social Development Project

Program Components

- School-based program providing developmentally appropriate, social competence training for elementary school children
- Educator training in each program year
- Developmentally appropriate, voluntary parenting classes

For Use With

- Elementary school children in grades one through six
- Urban children
- African American children
- Multiethnic populations*
- Socioeconomically disadvantaged children

Evaluation Methodology

- Quasi-experimental design, including treatment and comparison conditions in Seattle, Washington
- Elementary school children (n=643 at baseline; n=598 at follow-up at age 18; n=349 at age 21)
- Posttest at age 18 and at age 21, including self-reported measures of behavior along with California Achievement Test scores and disciplinary records

Evaluation Findings

- Delayed initiation of sexual intercourse
- Reduced number of sexual partners
- Increased condom use
- Long-term: reduced rates of teen pregnancy and birth (females only)

> *Evaluators' comments: A theory-based social development program that promotes academic success, social competence, and bonding to school during the elementary grades can prevent risky sexual practices and adverse health consequences in early adulthood.*
>
> Source: Lonczak HS, Abbott RD, Hawkins JD, *et al.* 2002

Program Description

This is a multi-year intervention, provided in grades one through six. Components include five days of in-service training for teachers in each intervention year, developmentally appropriate parenting classes offered to parents when children are in any intervention grade (except grade four), and developmentally adjusted social competence training for children in all six grades. The intervention is based on the social development model, an integrated theory of human behavior. [31]

Each year, as the children move through the elementary grades, teachers receive in-service training on proactive classroom management, interactive teaching, and cooperative learning. First grade teachers also receive instruction in fostering children's interpersonal problem solving skills. In addition, when students are in grade six, they receive four hours of training in skills to recognize and resist social influences to engage in problem behaviors. Parents can participate in voluntary, parenting training classes.[31]

Evaluation Methodology

The full intervention group consisted of all students randomly assigned to intervention classrooms in grades one through four in eight elementary schools in Seattle, Washington and who remained in schools assigned to the intervention in grades five and six. The late intervention group included students who received the intervention in grades five and six only. The comparison group consisted of students in schools assigned to receive no intervention in grades five and six and who were not in intervention classrooms in grades one through four. Participants in all three groups (n=643) were approximately equal by gender; 56 percent were from poor families (evidenced by their participation in the national school lunch / breakfast program); 44 percent were white; 26 percent, African American; 22 percent, Asian American; and five percent Native American. The intervention was evaluated when youth (n=598) were interviewed at age 18 and

* Populations in the evaluation included white, African American, Asian American, and Native American youth.

again at age 21 (n=349). Self-reported violent and nonviolent crime, substance use, sexual activity, pregnancy, bonding to school, school achievement, grade repetition, school dropout, and suspension and/or expulsion were assessed. In addition, data came from Youth Risk Behavior survey responses and California Achievement Test scores, as well as from court and school records regarding disciplinary actions and grade point average. [31]

Outcomes

- **Behavior—**
  - **Delayed initiation of sexual intercourse—**Fewer full intervention youth than comparison youth reported having initiated sexual intercourse by age 18 (72 versus 83 percent). By age 21, 10 percent of the full intervention group reported never having had sex, versus six percent of the comparison group. [31,32]
  - **Reduced number of sexual partners—**Fewer full intervention youth than comparison youth reported having had multiple sexual partners by age 21. Forty-three percent of comparison youth reported six or more partners, versus 32 percent of the full-intervention group.[31]
  - **Increased condom use—**At age 21, the difference in condom use frequency between the full intervention group and the comparison group was significantly greater for single African Americans than for other ethnic groups. For example, 50 percent of single African Americans in the full intervention group reported always using a condom, versus 12 percent of single African Americans in the comparison group.[31]
  - **Increased condom use at last intercourse—**At age 21, youth in the full intervention group were significantly more likely to report condom use at last intercourse (60 percent) versus 44 percent in the comparison group. For African Americans, 79 percent of those in the full intervention group reported using a condom during last intercourse, compared to 36 percent of those in the comparison group. [31]

Long-Term Impact

- **Decreased involvement in pregnancy and birth—**At age 21, 56 percent of comparison females reported ever having been pregnant, versus 38 percent of females in the full intervention. By age 21, 40 percent of comparison females had given birth, versus 23 percent of females in the intervention group. The proportion of males involved in a pregnancy or birth did not differ by intervention condition.[31]
- **Increased academic achievement and reduced delinquency and misbehavior—**Relative to comparison youth, full intervention students reported fewer violent acts and delinquent acts, less school misbehavior, better academic achievement, less involvement in heavy drinking, and more commitment to school. [31,32]
- **Late intervention findings—**Evaluation found that late intervention, in grades five and six only, did not significantly affect health risk behaviors during adolescence and up to age 18. [32]

For More Information, Contact

- **Social Development Research Group, University of Washington:** 9715 Third Avenue NE, Suite 401, Seattle, Washington, 98115

Abecedarian Project

Program Components

- Full-time educational intervention in a high quality child care setting, from infancy through age five
- Individualized educational games that focus on social, emotional, and cognitive development, with a particular emphasis on language
- Home School Resource Teacher serving as liaison between school and families in the first three years of attendance at public school
- Individualized curriculum packets, devised to meet each child's needs, delivered every other week to parents, along with encouragement to parents to work with their children for 15 minutes each day
- Supportive social services, as needed, for families in intervention and control groups

For Use With

- Healthy infants from families that meet federal poverty guidelines
- African American infants

Evaluation Methodology

- Experimental design, randomized prospective trial, with two possible treatment phases (during preschool and during the primary grades)
- Four study groups: both phases; one phase but not the other; and neither phase
- One hundred nine eligible families enrolled 111 infants (n=57 intervention infants and 54 control infants)
- Family assessment, based on 13 socio-demographic factors, identified families at baseline (infants n=111); cognitive tests at 48 months, to match children within preschool treatment and control groups (n=111); follow-up at age 21 (n=104)

Evaluation Findings

- Long-term: reduced number of adolescent births
- Long-term: delayed first births

> *Evaluators' comments: The outcomes show that high quality educational childcare can make a dramatic difference in the lives of young African American adults reared in poverty. Individuals assigned to the preschool treatment group had, on average, significantly higher cognitive test scores as young adults than did untreated controls, they earned higher scores on tests of reading and mathematics skills, they attained more years of education, they were more likely to attend a four-year college or university, and they were less likely to become teen parents.*
>
> Source: Campbell FA, Ramey CT, Pungello E, *et al.* 2002

Program Description

The Abecedarian Project is grounded in general systems theory. The program views development as an ongoing process of interactions among hierarchical systems, ranging from that of the individual and factors that directly affect survival to interactions with caregivers, social systems in home, school, and neighborhood, and societal forces. Service delivery begins in infancy with child-centered, full-day, year-round childcare. Free childcare transportation is also available. The curriculum includes "educational games" that emphasize and develop skills in cognition, language, and adaptive behaviors. Activities are individualized to meet the needs of each child and become more skills-based and group oriented for older pre-school children.[33]

In the school-age phase, the goal is to involve parents in their children's learning. Families are assigned a Home School Resource Teacher (HSRT) who serves as a liaison between the school and home for the first three years that the child attends public school. To involve parents in their children's education, homeroom teachers develop individualized curriculum packets, based on the needs of each treatment child. The HSRT delivers the curriculum packets to parents every two weeks and encourages parents to use the packets with their children for 15 minutes each day. HSRTs seek continuous feedback from the parents regarding the curriculum packets and activities in the packets, and classroom teachers and parents also meet regularly. [33]

Evaluation Methodology

Starting with pilot research in 1971 and enrollment of subjects in 1972, the Abecedarian Project identified multi-risk families and their children in North Carolina. Selection criteria were based on 13 socio-demographic factors that were weighted to create a High Risk Index. In addition, infants had to appear free of biological conditions associated with mental, sensory, and motor disabilities. Four cohorts of families were enrolled between 1972 and 1977. During admission, recruited pairs of families were matched on High Risk Index scores and then assigned to preschool treatment or control status on the basis of a table of random numbers. A total of 109 eligible families, to whom 111 infants were born, accepted their random assignments and agreed to take part. Characteristics of families in the two groups were similar: all families met poverty guidelines. Most mothers were young (mean, 20 years of age), had less than a high school education (mean, 10 years of education), were unmarried, lived in multigenerational households, and reported no earned income. One-third of participants were on public assistance. Although ethnicity was not a factor for participation, 98 percent of participants were African American. [33]

Families in both treatment and control conditions received supportive social services, as needed. Control infants also received nutritional supplements through age 15 months. Although control group children did not receive systematic educational intervention, a number of them attended other childcare centers. Thus, early treatment and control comparisons were between children who received the Abecedarian educational childcare and others cared for at home or in a variety of childcare settings. [33]

In the next phase of the evaluation, pairs of children were again matched within treatment and control groups and randomly assigned to school-age treatment and control conditions. This created four treatment conditions: children with preschool plus school age treatment; children with preschool treatment only; children with school age treatment only; control children (no intervention treatment). [33]

At age 21, 105 of the original 111 infants were living and eligible for follow-up. Of the 105 eligible individuals, 104 took part in the follow-up survey. Pre-school attrition meant that only 96 individuals were given school-age group assignments, and 95 were available for the four-group comparison. Data were collected from the young adults using standardized tests, questionnaires, and an interview, typically during a single session. [33]

Long-Term Impact

- **Reduced numbers of teenage births—**Fifty-six percent of preschool treatment young women reported no birth by age 21, compared to 43 percent of control females (n=51). Of the 44 percent of treatment females who reported a birth prior to age 21 (n=11), only three had a second child and none had three children. By comparison, 57 percent of control females had one child by age 21 (n=16); six had two children; and two had three children. In other words, almost twice as many children were born to females in the preschool control group as in the preschool treatment group. [33]
- **Delayed first birth—**Among young women in the preschool treatment group, only 26 percent reported being age 19 or younger at the birth of her first child, compared with 45 percent of control young women. Among those who did have children by age 21, preschool treatment was associated with a significant delay in the average age at first birth. The mean age at the birth of a first child was 19.1 years for the preschool treatment group, compared with 17.7 years for the preschool control group. [33]
- **Reduced rates of marijuana use—**At 21 years, 18 youth in the preschool treatment condition reported using marijuana in the previous month, significantly less than the 39 control youth. [33]
- **Increased skilled employment and/or higher education—**Youth in the preschool treatment group were equally as likely as control youth to be employed but significantly more likely to be engaged in skilled jobs (47 versus 27 percent, respectively). Almost thee times as many individuals in the preschool treatment group as in the control group had attended or were attending a four-year college (36 versus 14 percent, respectively). [33]

For More Information, Contact

- **FPG Child Development Institute, University of North Carolina at Chapel Hill**; www.fpg.unc.edu/~abc/

Teen Outreach Program

Program Components

- School-based teen pregnancy and school dropout prevention program
- Supervised community volunteer service
- Classroom discussion of service experience
- Classroom discussion and activities related to key social and developmental tasks
- Length of program—nine months
- Educator training is recommended

For Use With

- High school students
- Youth at high risk*
- Ethnic minority youth+
- Adolescent mothers
- Students with academic difficulties, such as previous suspension

Evaluation Methodology

- Quasi-experimental design, including treatment and comparison conditions in 30 schools nationwide in 1986-1987
- Students in grades seven through 12 (n=1,487); average age 15.65
- Pretest and posttest at program end (nine months after pretest)

Evaluation Findings

- Reduced rates of behavior-related problems (pregnancy, school suspension, class failure, and/or school dropout)

First Replication Evaluation Methodology (1991–1995) & Findings

- Experimental design, including treatment and control conditions at 25 sites nationwide
- High school students (n=695)
- Pretest and posttest at program exit (nine months after pretest)
- Findings: reduced rate of teen pregnancy

Second Replication Evaluation Methodology (1996–2000) & Findings

- Quasi-experimental design, including treatment and comparison conditions at 60 sites nationwide
- High school students (n=3,277)
- Pretest and posttest at program exit (nine months after pretest)
- Findings: reduced rate of teen pregnancy

> *Evaluators' comments: One of the more striking features of the Teen Outreach Program is that it does not explicitly focus upon the problem behaviors it seeks to prevent but rather seeks to enhance participants' competence in decision making, in interacting with peers and adults, and in recognizing and handling their own emotions. Particularly in the field of teen pregnancy prevention, this focus has important practical implications, because it means the program may be politically acceptable in communities where programs that explicitly focus upon sexual behavior may not be feasible to implement.*
>
> Source: Allen JP, Philliber S, Herrling S, *et al.* 1997

Program Description

The *Teen Outreach Program* is a program for high school-aged students, consisting of three interrelated components: supervised community service, classroom discussion of service experiences, and classroom discussion and activities related to key social and developmental tasks of adolescence. In class, participants work in small groups with a facilitator or mentor—discussing values, human growth and development, relationships, dealing with family stress, and issues related to the social and emotional transitions from adolescence to

* High risk youth are defined in this program as youth with a history of class failure, school dropout, school suspension, or involvement in a pregnancy.

\+ In evaluations, minority populations included black and Hispanic youth.

adulthood, while developing skills in communication and making decisions. Service learning projects take students into their communities, creating a combination of education and community service that is intended to empower young people to succeed. In keeping with the program's broad developmental focus, the program places little direct emphasis upon its two target behaviors (preventing pregnancy and school dropout). Sex education materials constitute 10 to 15 percent of the overall curriculum and are incorporated within the general program emphasis on making good decisions about life options. Trained facilitators, usually teachers or guidance counselors, lead the classroom discussions, which also incorporate opportunities for youth to reflect on their volunteer activities in the community and to ratify the meaning of these activities for their own lives. *Teen Outreach Program* is based on the "helper-therapy" principle and the theory of empowerment.[34,35,36]

Evaluation Methodology

High school students (n=1,487) were randomly assigned to either an intervention or comparison group in each of 30 schools across the United States. Although programs varied widely, all involved both classroom and volunteer activities. Participating and comparison youth were in grades seven through 12, most in grades nine or 10. Over 70 percent of intervention participants were female; 67 percent of comparison youth were female. Among all youth, about one-third were black, about 50 percent were white, less than 10 percent were Hispanic. Program effects were assessed by students' self-reports of pregnancy or pregnancy involvement, course failure, and suspension at baseline and nine months later at program exit. At entry, nearly 54 percent of intervention participants and 44 percent of comparison youth reported course failure in the prior year; rates of suspension in the prior year were also relatively high (22 and 17 percent, respectively). About five percent in each group reported a previous pregnancy. Because each problem behavior had a low base rate, problem behaviors were combined into an overall problem behavior syndrome scale.[34]

Outcomes

The evaluation did not provide information about specific knowledge, attitudes, or behavior changes. Rather, the evaluation focused on specific health and academic indicators.[34]

- **Fewer problem behaviors—**At entry, *Teen Outreach* participants reported significantly more problem behaviors (class failure, school suspension, school dropout, and involvement in a pregnancy) than did comparison students. At exit, *Teen Outreach* participants reported significantly fewer problem behaviors in the past nine months, than did comparison youth. Moreover, the program was significantly more effective with high school than with junior high school students.[34]

First Replication Evaluation Methodology (1991–1995)

Teen Outreach Program was re-evaluated, using data collected during 1991-1995 at 25 sites nationwide. Students (n=695) were randomly assigned to either the *Teen Outreach Program* or the control condition, either at the individual level or at the classroom level. Participants and control youth were in grades nine through 12; 69 percent were in ninth or 10th grade. Average age of intervention participants was 15.8; that of control youth, 15.9. Less than 85 percent were female and about 67 percent were black. Students were surveyed regarding school suspension, course failure, and pregnancy at pretest and nine months later, at the program's end.[35]

First Replication Outcomes

- **Reduced teen pregnancy rate—**At program exit and after controlling for demographic factors and past problem behaviors, the risk of pregnancy was only 41 percent as large among *Teen Outreach* participants as the risk among the control group.[35]
- **Reduce risk of school suspension—**After controlling for demographic variables and prior problem behaviors, risk of school suspension in the *Teen Outreach* group was less than half (42 percent) that of the risk for school suspension for members of the control group.[35]
- **Reduce risk of course failure—**After controlling for demographic variables and prior problem behaviors, the risk of course failure among *Teen Outreach* participants was 39 percent as large as among the control group.[35]

Second Replication, Evaluation Methodology (1996–2000)

Another evaluation of *Teen Outreach Program* (conducted in 1996-2000) was designed to assess the program's impact on youth at highest risk for teen pregnancy and school dropout. Data were collected data from 3,277 participants and comparison youth at 60 sites nationwide. Youth's average age was 15.9 to 16.0; youth were in ninth through 12th grade; and about three-quarters were male. About 45 percent were black; nearly 37 percent were white; and nearly 13 percent Hispanic. Once again, youth were surveyed at baseline and at program exit, nine months later.[36]

Second Replication Outcomes

- **Reduced rate of teen pregnancy and involvement in pregnancy—**Students in *Teen Outreach* were at 53 percent the risk of pregnancy as those in the comparison group. [36]
- **Reduced repeat teen pregnancy outcomes—**Teenage parents who participated in *Teen Outreach Program* were at one fifth the risk of repeat pregnancy (or of fathering another pregnancy) at the end of nine months relative to teen parents in the comparison group. [36]
- **Reduced risk of course failure—**Participants in *Teen Outreach* were at 60 percent the risk of course failure as comparison youth. [36]
- **Reduced risk of suspension from school—**Participants in *Teen Outreach* were at 52 percent the risk of suspension from school as the comparison youth. [36]
- **Reaching youth at highest risk—**The program was most effective as a prevention program for youth most at risk of the specific types of problems the intervention sought to prevent (academic problems, school dropout, and teen pregnancy). [36]

> *Evaluators' comments: The most striking finding was that Teen Outreach appeared most effective as a prevention program with youths who were most at-risk of the specific type of problem behaviors being assessed. The program had the greatest impact in reducing future pregnancies among the group at highest risk of such pregnancies (those who have already given birth to a child). For this group, the likelihood of an additional pregnancy was less than one-fifth as large in the Teen Outreach group as in the comparison group, even after accounting for other background factors that may have also affected pregnancy rates. For academic failure, Teen Outreach demonstrated greater efficacy for youths who had been previously suspended than for those who had not. The program was also found to be more effective for members of racial ethnic minority groups, who were also at greater risk for academic difficulty in this study.*
>
> Source: Allen JP, Philliber S, 2001

For More Information or to Order, Contact

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Glossary of Terms

Although Advocates for Youth strove for consistency in terminology, it may still vary. For example, some evaluations provide information about African American participants, others about black participants. These two terms are not necessarily interchangeable since they may denote different populations. Therefore, Advocates for Youth used the evaluators' language as to race/ethnicity and risk (i.e., low risk, high risk, or moderate risk).

Participant Groups

- **Control or comparison group** = young people with similar socioeconomic, ethnic, and demographic characteristics as the *intervention group*, yet who did not receive the program being evaluated, and whose answers at pretest and post-intervention follow-up provided evaluators with data for comparison with intervention participants, in order to determine the effectiveness of the program. The non-participant group is called a control group when youth are selected randomly and a comparison group when they are not.
- **Treatment or intervention group** = the young people who received the program being evaluated.

Evaluation Design

- **Experimental design** = an evaluation design that involves gathering a set of individuals equally eligible and willing to participate in a program and randomly dividing them into two groups: those who receive the *intervention (treatment group)* and those from whom the intervention is withheld (*control group*). By randomly allocating the intervention among eligible beneficiaries, the assignment process creates comparable treatment and control groups that are statistically equivalent with one another, given appropriate sample sizes.*
- **Non-experimental design** = an evaluation design for use when it is not possible to select a *control group*, identify a suitable *comparison group* through *matching* methods, or use *reflexive comparisons*.*
- **Quasi-experimental design** = an evaluation design that constructs a comparison group using matching or reflexive comparisons. **Matching** involves identifying non-program participants comparable in essential characteristics to participants; both groups are matched on the basis of either a few observed characteristics or a number of characteristics that are known, or believed, to influence program outcomes. **Reflexive comparison** involves program participants, compared to themselves before and after the intervention and who function as both treatment and control group.*

Related Terms

- **Replication** = the same program, evaluated in another place with different young people.
- **Fidelity** = careful *replication* of a program to include all its elements as included in the original evaluation. Where programs were altered, lack of fidelity is noted in this document.
- **For Use With** = used here to denote the populations of young people with whom evaluation has shown a particular program to be most effective as well as the population for whom it was designed.
- **Significant** = statistically significant, or meaningful difference, as determined by evaluation.

* Definition from www.worldbank.org/poverty/impact/methods/overview.htm

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