# The National Evaluation of the Children's Aid Society Carrera-Model Program to Prevent Teen Pregnancy

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## Introduction

In spite of recent declines, the United States still has the highest teen pregnancy and teen birth rates of any industrialized nation in the world. Moreover, the search for programs and interventions that might reduce these rates has yielded only a few promising strategies. A growing number of programs can now claim to improve contraceptive use or affect a sexuality-related behavior, such as number of partners or age at first intercourse. However, there are still fewer than ten high quality evaluations of programs that document success in preventing teen pregnancies or births.

This paper reports findings from a three-year random assignment evaluation of the Children's Aid Society, Carrera-model teen pregnancy prevention program. The program was tested at twelve sites in seven cities.

## The CAS-Carrera Program

In 1984, the Children's Aid Society (CAS) implemented a sexuality and pregnancy prevention program for high-risk adolescents in Harlem. Designed and implemented by Michael A. Carrera and Patricia Dempsey, the approach of these interventions is characterized by the following:

- using a "parallel family systems" approach or staff treating children as if they were their own;
- viewing each young person as pure potential;
- using a holistic approach to young people which includes multiple services, and meeting comprehensive interests and needs;
- continuous and long term contact with teens, characterized by individual planning and tracking 12 months a year through high school;
- services for young people, their parents, and adults in the community;
- use of a non-punitive, gentle, generous and forgiving approach, and
- reduction of program fragmentation by providing services under one roof in the participant's community.

The program sees children as "at promise" rather than as "at risk."

These principals of the program infuse all five program activities and the two services offered by the model. The program components are:

1. a work-related intervention called job club, including stipends, development of an individual bank account, graduated employment experiences, and career awareness;
2. an educational component including individual academic assessment, tutoring, homework help, PSAT and SAT preparation, and assistance with college entrance;
3. family life and sex education (FLSE);
4. self expression through the arts, and
5. lifetime individual sports.

These components are supplemented by comprehensive medical care, reproductive health counseling, availability of contraception, and mental health services, including counseling as needed.

These programs run five days a week during the school year. During the summer, young people receive assistance with employment and maintenance meetings are held to reinforce sex education and academic skills. There are also occasional social, recreational and cultural trips.

Each program is staffed by part-time employees who run the various components and by a full-time coordinator and a full-time community organizer. This latter employee handles day-to-day program logistics but perhaps more importantly, maintains continuous contact with young people and their parents, following up promptly when young people do not attend. The community organizer is usually a community member, selected because of good rapport with neighborhood residents.

**The Evaluation Sites**

In early 1997, funding from the Robin Hood Foundation, made it possible to select 6 New York City sites at which a true experimental design could be launched. Funding from the Charles Stewart Mott Foundation soon followed and allowed the evaluation to expand to 6 other sites not in New York City. The 12 sites included in this evaluation are:

**Citizens Advice Bureau, Bronx NY:** Serving low-income families in the South Bronx, this agency merged with the Girls Club of New York in 1993 and sees youth development as a priority programming area.

**Grand Street Settlement, Inc. New York, NY:** One of the older settlement houses in New York, this multi-service agency serves young people at a community school on the Lower East Side of Manhattan, including a large population of Hispanic immigrants.

**Jacob A. Riis Neighborhood Settlement House, Queens, NY:** Another of New York's settlement houses, this century-old agency serves the nation's largest public housing development and surrounding areas in western Queens.

**Madison Square Boys & Girls Club, Bronx NY:** One of seven clubhouses throughout the city, the Bronx facility offers educational, recreational and guidance services to youth.

**New York City Mission Society, Harlem NY:** Throughout its 184 year history, this agency has used an empowerment model in working with disadvantaged New Yorkers. The Carrera program was offered in the Society's Minisink Townhouse, located in Central Harlem.

**Project Reach Youth, Brooklyn NY:** Founded in 1968, this Brooklyn-based youth agency provides education, counseling and youth development programs for low income young people.

**The Healthy Teens and Young Adults Program (HTYA)**, **Baltimore, MD:** The program was implemented by The Baltimore City Health Department.

**Planned Parenthood of South Palm Beach and Broward County, Inc., Broward County, FL:** This group collaborated with the Hollywood Unit of the Boys and Girls Club. Known as "the Club that beats the streets," it has been reaching out to children between ages 7 and 18 for over 20 years.

**The Chicano Family Center, Houston, TX**: Founded in 1971, this was originally a professional training center for social work and mental health issues related to the Hispanic community in the East end of Houston. In collaboration with agencies such as the Harris County Hospital District, the City of Houston Health Department, and the Texas Commission on Alcohol and Drug Abuse, the Chicano Family Center offers a variety of direct services to the Hispanic population in east Houston.

**The Boys and Girls Aid Society of Oregon, Portland, OR:** Serving children and families for over 110 years, the agency collaborated with local state, city, and county agencies to implement the Carrera-Dempsey model at the University Park Community Center, located in North Portland, in a multi-ethnic, low-income neighborhood.

**The Baden Street Settlement, Rochester, NY:** This group has served the Northeast area of Rochester for nearly 100 years, with a wide range of services designed to help community residents achieve self-sufficiency. The model was implemented at Eastside Settlement, a sister settlement to Baden, with services also provided through other community human service agencies.

**Partners in Action for Teen Health (PATH), Seattle, WA:** This group was a collaboration among fourteen social and health services agencies, schools and community members.

## Recruitment and Random Assignment

Adolescents were eligible to participate if they were not currently enrolled in an on-going, structured after-school program that had a regular meeting schedule; if they would be 13, 14 or 15 on July 1, 1997 for the New York sites and if they would be 13, 14, or 15 on January 1, 1998 for the other sites; and if they were not currently pregnant or parenting. Programs used a variety of recruitment strategies including outreach in the schools, distributing fliers throughout the neighborhood, contacting families on the agency's mailing lists or recruiting teens involved in general recreation activities at the agency.

Each site recruited approximately 100 students who, following baseline data collection by the evaluation team, drew envelopes out of a bag to determine if they would be in the Carrera program or some other alternative (some of the national sites recruited fewer students) . At most sites these "alternatives" were the regular youth programming offered by the agency, including recreation and at some sites, other programs such as homework help or arts and crafts. Parents

of prospective program and control teens were given an extensive orientation about these programs and the evaluation prior to data collection. Both parents and teens signed consent forms for participation in the program and its evaluation, including the random assignment procedure.

**Data Collection**

The data used to evaluate this program come from:

- Annual surveys administered by the research team to the teens enrolled;
- Pre and post tests of knowledge related to sexuality topics, administered at the same time as the survey questionnaire;
- Attendance data and participant follow up data provided by program staff;
- Participant contact information documented by the mental health counselors;
- A data base maintained by the central CAS office to document the medical component (New York sites only), and
- Interviews conducted by the research team with program staff.

To facilitate tracking, especially of control group youth, students were contacted several times a year, sent birthday cards and they received cash and other incentives (such as Metro cards for New York sites or t-shirts, walk-mans, book bags, and other items) at each event of data collection. A part-time "tracker" helped maintain the sample using home visits, telephone calls and visits to the program sites to find and survey young people who did not appear for the regular data collection events. At sites outside of New York, local evaluators helped with this process.

**The Research Sample**

Table 1 shows the characteristics of both program and control teens at intake, as well as the characteristics of the third-year samples on which this report is based. The third year follow-up sample which represents all youth found and interviewed at the three-year data collection point, includes 81% of the original intake sample. The program sites recruited both girls and boys, and reached young teens whose ages span the target range fairly evenly. About a third of the participants were 13 at the time of enrollment, about the same percentage were 14 and roughly one-quarter were 15. The ethnic groups reflect the diversity of the neighborhoods in which the sites are located. About 47% are black (either African American or Caribbean black) and most of the remainder are Latino or mixed Latino and other ethnicities.

**Insert Table 1 about here**

One characteristic shared by all the sites is the precarious economic situation of their families. Some 17% live in families that have no adult working and receive entitlements such as public assistance or Medicaid. Another third live in families with one of these conditions.

Almost half of these teens are from single parent homes. The teens were asked about substance abuse, domestic violence, unemployment, illness, incarceration and depression among family members (parental issues). About twenty percent of the group report being affected by substance use, incarceration, illness or domestic violence. Not surprisingly, unemployment is reported by nearly half. At intake, about a fifth reported that two or more of these problems had existed in their families.

About a third said they had been involved in some kind of activity at the site before they were recruited for this program. None of the teens recruited was involved in an on-going structured program. About four in ten had paid employment before program enrollment and 81% had had a medical check up in the year before beginning the program. Approximately one quarter had sexual intercourse before enrollment.

For use in the multivariate analysis reported below, a measure of barriers in a young person's life was created. A six-point scale offered one additional point if a young person had each of the following:

- a negative peer group, as indicated by friends who engaged in three or more risk behaviors including marijuana use, being in a gang, carrying or using a weapon, damaging school property or being arrested;
- parents with two or more problems including substance abuse, domestic violence, illness or incarceration;
- a poor relationship with mother as indicated by low ratings of closeness, feelings that parents did not spend enough time with them, not sharing ideas or talking over important decisions with parents and/or parents not listening to the young person;
- an unsafe neighborhood as indicated by being asked to sell drugs or reporting that the neighborhood was very unsafe;
- no relationship with a church or faith center, and
- low socioeconomic status as measured by the family receiving entitlements and having no adult employed.

Young people averaged nearly two of these barriers.

None of the variables shown in Table 1 differed significantly between the program and control group samples at intake. In the third-year sample, there were differences in ethnicity and living situation. More of the program teens did not live with either parent and fewer were Latino.

Preliminary analysis of these data suggested a number of gender differences in outcomes. Thus, in anticipation of comparisons between program and control teens within gender subgroups, Table 2 shows these same participant characteristics for the third year sample among

males and females. There were no significant differences between program and control students within either of the gender groups.

**Insert Table 2 about here**

## Program Participation

By the end of the third year, 70% of the original program participants were still involved at some level in their CAS-Carrera program. Almost half (45%) had attended one of the five components or two services 3 times or more within the past 5 months, while another 25% had had fewer contacts with the program or had contacts with program staff outside of the weekday component schedule. Among the 30% who seem permanently inactive, reasons for not attending include: never engaged in the program at all, moved, lost interest, had family issues that precluded participation, had scheduling conflicts with work or other activities or were incarcerated.

On average, teens have attended about 12 hours per month of programming during the first three years. This average is 16 hours per month among the 45% who were most actively involved. The greatest number of those hours have been spent in receiving educational support since tutoring, homework help and other similar activities tend to be offered at program sites every day. Job Club, family life/sex education, self expression and sports are generally offered on schedules of alternating days, such as Tuesday/Thursday or Monday/Wednesday. Some sites did not offer every component for every program cycle during the last three years.

On average, the community organizers in these programs make about 2 contacts per month with teens or their families outside of the program hours. Their logs document the issues that cause teens to be absent from the program. Family responsibilities (such as babysitting younger siblings), family mobility, employment, education activities, and participation in extra curricular activities at school are common reasons for non-attendance. Sometimes parents punish their children by making them miss program days, a practice which the program discourages.

Table 3 examines the relationships of several characteristics of these young people to their program attendance. Among the variables shown here, gender, age, and having had intercourse before entering the program are significantly related to attendance. Regression analyses (not shown) demonstrated that when these variables are used as predictors of attendance, having vaginal intercourse before entering the program has an independent and significant relationship with attendance, but only among males.

**Insert Table 3 about here**

During the first two years of this evaluation, about 41% of the control group students regularly participated in some kind of after-school program. By the third year this percentage had dropped to 35%. Thus, the control group did have some after-school services. The majority of control teens participated in programs offering only one component (most generally recreation), rather than participating in more comprehensive programs like the CAS-Carrera model. Still, the evaluation data to be reported here compare CAS-Carrera participants with a

sample of young people with some program exposure, rather than comparing program youth with others who have not had any intervention at all. The evaluation is thus likely to underestimate the effects of the CAS-Carrera model compared to no intervention, but probably accurately estimates the effects of the model compared to what young people can find on their own.

## Results

Table 4 shows third-year sexuality and reproductive outcomes for the total sample and by gender. In the first two years, students completed a comprehensive sexuality knowledge exam, including questions on physiology, contraception, gender differences, sexuality and pregnancy. Over time, knowledge gains were significantly greater among the program teens than among controls.

**Insert Table 4 about here**

Females were asked if there had been any time when they were pressured to have sex and what decision they made at that occasion. Girls in the program group were more likely than girls in the control group to say they chose not to have sex when pressured (50% versus 39%), although this difference was not significant.

Young people in the CAS-Carrera program were less likely to have initiated intercourse by the end of the third year, but the difference was not quite significant (p=.098) in the total sample, nor among the gender subgroups. Once having initiated intercourse, however, program girls were significantly more likely than control girls to use Depo-Provera at last intercourse. There were no significant differences in use of a condom, but most young people in both the program and control groups reported protecting themselves in this way.

Perhaps most importantly since this is the program's major goal, at the third-year follow-up, females in the CAS-Carrera program had significantly lower rates of pregnancy and births than did control females.

While program males had significantly higher gains in knowledge than did control males, the behavioral outcomes found among the girls were not evident for the young men. In fact, control males were slightly but not significantly more likely than program males to have used both a condom and a highly effective method of birth control at last intercourse.

Table 5 shows several health-related outcomes for these young people. Young people in the CAS-Carrera program were significantly more likely than control young people to get their health care at someplace other than the emergency room, to have had a social assessment at their last medical exam, to have had a hepatitis B vaccine and to have made a reproductive health visit. These outcomes were particularly likely among males. There were no significant differences in receiving recent dental care or in receiving a medical checkup within the past year.

**Insert Table 5 about here**

A summary scale of five of these health outcomes was created, omitting the item on having a reproductive health visit, which was tabulated only for sexually active teens. Analysis shows that the program teens were more likely than the control teens to have had 4 or 5 of these desirable health outcomes by the time of the third year follow-up (this difference was nearly significant p=.0503). This summary finding was significant among males.

Table 6 reviews the program's success in encouraging bank accounts, work experience and computer skills among these young people—all potential indicators of their job readiness.

**Insert Table 6 about here**

Young people in the CAS-Carrera program were significantly more likely than control students to have bank accounts, to have had work experience, to use word processing programs, to use the internet, and to use e-mail. The findings about computer skills applied to both males and females. Program females were significantly more likely to use the computer often, use word processing programs, and use email, whereas, program males were significantly more likely than control males to use the internet. Overall, program males and females were more likely than the control males and females to show 3 or 4 of the computer use outcomes by the end of the third year.

Table 7 shows several education-related outcomes. It is too early for all of these young people to have reached high school graduation age so that some of these outcomes are in a sense premature and apply only to portions of the sample. They are nevertheless reported here as interim indicators.

**Insert Table 7 about here**

There were no significant differences in self-reported grades among these students but the total sample of CAS-Carrera students and young males in the program were significantly more likely than control students to believe that the quality of their school work had improved.

There were significantly higher scores on both the verbal and math portions of the PSAT exam among program students and significantly higher verbal scores among females in the program. The PSAT, however, was only administered at the New York sites. CAS-Carrera program young people were significantly more likely to have made college visits than were the control students. This difference applied to both males and females.

As noted above, only a portion of the third-year sample is yet eligible for graduation. Among those who were 9$^{th}$ or 10$^{th}$ graders at enrollment, graduation rates are higher, but not significantly so.

Table 8 shows delinquency and drug use outcomes among program and control students. There were no significant differences between program and control teens on any of these outcomes, except for the initiation of marijuana use among those who had not used at enrollment. Program males were significantly less likely than control males to have initiated marijuana use.

**Insert Table 8 about here**

The findings reported above compare program and control students, for the total sample and by gender, at the third year follow-up. However, these findings could be affected by other differences between the program and control samples, even in a random assignment design with a well-matched sample. Multivariate analysis could show that other variables account for the differences shown above between program and control teens. The analysis below explores whether being in the CAS-Carrera program makes an independent contribution to some of these outcomes, net of gender, ethnicity, living arrangements, baseline measures of the outcome variables, and the barriers of each student at intake.

Table 9 presents the results of several logistic regression analyses within gender groups. This multivariate analysis was conducted for only the most important outcomes (for example, pregnancy, rather than change in knowledge), and for outcomes for which the bivariate analyses above suggested that the program had a significant effect.

The odds ratios in the tables labeled CAS-Carrera Program are an estimate of the relative likelihood of each outcome behavior among the program teens as compared with teens in the control group, net of or controlling for the other variables in the equation (baseline differences in the outcome, ethnicity, age, and barriers). An odds ratio close to 1.0 can be interpreted as reflecting no difference in likelihood of these outcomes in the two groups, whereas ratios substantially above or below 1.0 indicate that the two groups differ in their probabilities of these outcomes.

The regressions for the total program sample are not shown, although program membership was a significant, independent contributor to outcomes in several of these equations. These significant differences were created, for the most part, by one gender group or the other, so that the gender-specific findings provide a better picture of the program's outcomes.

Each of these analyses was first performed with a dummy variable for site included. Inclusion of the site variable made no difference in the role of the program variable; that is, the effect of being in the program was either significant or not significant, regardless of whether the site variable was included. The odds ratios for the program variable also changed little in the equations which controlled for potential site effects. For simplification, therefore, the data presented below are from the equations that do not include the site variables.

Two of these outcomes can be analyzed as continuous variables but were converted to dichotomous measures to preserve the use of the logistic regression model. Health and computer outcomes were coded as "high" or not (as shown in Tables 5 and 6). Equations for delinquency and drug use outcomes are not shown, since the multivariate analyses confirmed the bivariate finding that the program did not make an independent contribution to any of these outcomes.

Table 9 shows that after controlling for age, race, barriers, family living arrangement and being sexually active at intake, pregnancy for young women in the CAS-Carrera program was

49% as likely as in the control group. Put another way, the risk of pregnancy in the program group was less than half of that risk in the control group, net of these other variables.

**Insert Table 9 about here**

The likelihood of giving birth by the end of the third year was 46% as large among program girls as among control girls. In other words, females in the control group were more than twice as likely to report a birth during the three years of this study. Moreover, the program females were almost three times more likely than the control girls to use Depo-Provera at last intercourse, net of these other variables. As in the bivariate analysis, no significant effect on these variables was found among males.

Table 9 also shows that having good health care was one and a half times more likely among program males than among their counterparts in the control group. And, females in the CAS-Carrera program were one and a half times more likely than control girls to show high computer proficiency and use. There were no significant program effects on this variable among males.

Finally, both males and females in the program were significantly more likely than control teens to have work experience. Both were more than twice as likely as control teens to have had this experience.

## Conclusion

These results allow the CAS-Carrera program to join fewer than 10 programs that have been shown to have an impact on teen pregnancy or birth rates. The program is one of only four that has been evaluated using a random assignment design and achieving one of these impacts. This program has achieved both of these important results. Reduction of teen pregnancy and thus, reduction of teen births have always been the goals of the CAS-Carrera model.

The data presented here suggest that the program may achieve this result partly by delaying sexual intercourse but chiefly by facilitating the effective use of protection among young women who become sexually active.

In addition to these primary outcomes, the CAS-Carrera program seems to produce other more general youth development outcomes. Young men and women in the program are more likely to be receiving timely medical care and are more likely to have work experience. The program interventions specifically seek these outcomes by linking young people with medical care and encouraging them to escalate their participation in the work force through Job Club. The program also enhances computer use skills. This too, is a deliberate aim of the program, and is seen as a way to enhance job readiness. Among a subset of the sample where this was measured, participation in the program is related to somewhat higher PSAT scores.

Some outcomes did not improve. There were only selected impacts on educational progress indicators and there were no apparent impacts of the program on delinquency, violence or drug use except for marijuana use among males. Program males were significantly less likely than control males to begin to use marijuana. The CAS-Carrera model does not specifically work on these latter behaviors but it does seek educational gains. The New York City sample is

being followed for a fourth year and this will perhaps produce a clearer picture of whether academic achievement has been improved.

Except for knowledge, the reproductive health outcomes for young males are not significantly better among program than among control youth. Moreover, the program does not appear to increase as many computer skills among the boys as among girls. However, the program boys were more likely than control boys to make a reproductive health care visit – an important and rare accomplishment.

The data on attendance may provide a partial clue about these mixed results for males. Young males at highest risk—those who had sexual intercourse before program enrollment — were least likely to attend regularly. Perhaps the model should be implemented earlier for young males.

Further analysis of these data will focus on subgroup differences in these results and will explore the relationship of program exposure to these results. Because this was a random assignment design, the program group now includes some young people who never engaged with the program. This means that the results reported here are likely to be conservative estimates of the program's results.

The other three programs evaluated with random assignment designs and reducing either pregnancies or births are Teen Outreach, the Abecedarian Project, and the Conservation and Youth Service Corp. This latter project worked with young people aged 18 to 25 who were out of school, remedial academic assistance and community service. Teen Outreach achieved its results primarily among high school students, using community service and a facilitated curriculum. The Abecedarian Project provided full day child care all year from infancy through kindergarten and attempted to get parents more involved in the schooling of their children. By age 21, the preschool group had delayed childbearing for more than a year. Thus, the CAS Carrera-model program is the only one working with young people aged 13-15 in disadvantaged neighborhoods and achieving this result.

These results, coupled with those from these other high quality evaluations, should suggest to the field and to policy-makers that we do know how to prevent teen pregnancy. We need only add a will to do so.

## Table 1: Characteristics of Program and Control Groups: Intake and Third Year Samples

| | Full Sample | | Third Year Follow-up Sample | |
|---|---|---|---|---|
| | Program (N=589) | Control (N=574) | Program (N=485) | Control (N=456) |
| **Age:** | | | | |
| ..... 12 | 3% | 1% | 3% | 2% |
| ..... 13 | 37% | 35% | 38% | 35% |
| ..... 14 | 37% | 39% | 37% | 38% |
| ..... 15 | 22% | 24% | 21% | 23% |
| ..... 16 | 1% | 1% | 1% | 2% |
| ..... mean age | 14.3 | 14.4 | 14.3 | 14.3 |
| **Gender:** | | | | |
| ..... male | 43% | 47% | 45% | 45% |
| ..... female | 57% | 53% | 55% | 55% |
| **Ethnicity:** | | | | |
| ..... African-American | 44% | 41% | 44% | 43% |
| ..... Caribbean Black | 3% | 3% | 3% | 3% |
| ..... Hispanic | 26% | 32% | 26% | 33% |
| ..... White | 5% | 6% | 5% | 4% |
| ..... Asian | 5% | 2% | 5% | 2% |
| ..... Multi-ethnic | 15% | 13% | 16% | 13% |
| ..... Other | 2% | 3% | 1% | 2%* |
| **SES Status:** | | | | |
| ..... Adult employed/no entitlements received | 46% | 47% | 47% | 47% |
| ..... Either no adult employed or receives entitlements | 37% | 36% | 36% | 36% |
| ..... No adult employed and receives entitlements | 17% | 17% | 17% | 17% |
| **Family Composition:** | | | | |
| ..... two parents | 42% | 42% | 43% | 43% |
| ..... one parent | 47% | 50% | 46% | 51% |
| ..... neither parent | 11% | 8% (.072) | 11% | 6%* |
| **Parental Issues:** [a] | | | | |
| ..... None | 53% | 54% | 54% | 53% |
| ..... 1 | 27% | 26% | 27% | 28% |
| ..... 2+ | 20% | 20% | 19% | 19% |
| **Had previously participated in activities at this site:** | | | | |
| ..... yes | 33% | 36% | 34% | 40% (.053) |
| **Have had paid job:** | 41% | 43% | 42% | 44% |
| **Have had health check up within past year:** | 81% | 82% | 81% | 83% |
| **Have had vaginal intercourse:** | | | | |
| ..... yes | 24% | 25% | 23% | 23% |
| **Number of barriers (out of six):** [b] | | | | |
| …average | 1.9 | 1.9 | 1.9 | 1.9 |

* $p<.05$.

[a] Parental issues include alcohol or drug problem, domestic violence, illness, or incarceration.

[b] Barriers include 3 or more negative peer behaviors, parents scoring 2 or higher on parental issues, poor relationship with mother, unsafe neighborhood, no relationship with faith organization, and low socioeconomic status.

## Table 2--Characteristics of Program and Control Teens: Third Year Sample by Gender

| | Third Year Follow-up Sample | | | |
|---|---|---|---|---|
| | **Program Boys (N=217)** | **Control Boys (N=205)** | **Program Girls (N=268)** | **Control Girls (N=251)** |
| **Age:** | | | | |
| ..... 12 | 2% | 2% | 3% | 1% |
| ..... 13 | 41% | 39% | 34% | 32% |
| ..... 14 | 38% | 36% | 38% | 39% |
| ..... 15 | 18% | 21% | 23% | 26% |
| ..... 16 | 1% | 2% | 2% | 2% |
| ..... mean age | 14.2 | 14.3 | 14.3 | 14.4 |
| **Ethnicity:** | | | | |
| ..... African-American | 50% | 43% | 40% | 44% |
| ..... Caribbean Black | 2% | 3% | 5% | 2% |
| ..... Hispanic | 27% | 36% | 25% | 32% |
| ..... White | 5% | 3% | 5% | 4% |
| ..... Asian | 3% | 2% | 6% | 2% |
| ..... Multi-ethnic | 12% | 10% | 18% | 15% |
| ..... Other | 1% | 3% | 1% | 1% |
| **SES Status:** | | | | |
| ..... Adult employed/no entitlements received | 48% | 44% | 46% | 49% |
| ..... Either no adult employed or receives entitlements | 36% | 41% | 37% | 33% |
| ..... No adult employed and receives entitlements | 16% | 15% | 17% | 18% |
| **Family Composition:** | | | | |
| ..... two parents | 49% | 44% | 38% | 42% |
| ..... one parent | 42% | 50% | 50% | 52% |
| ..... neither parent | 9% | 6% | 12% | 6% (.089) |
| **Parental Issues:** [a] | | | | |
| ..... None | 54% | 60% | 54% | 47% |
| ..... 1 | 26% | 25% | 27% | 30% |
| ..... 2+ | 20% | 15% | 19% | 23% |
| **Had previously participated in activities at this site:** | | | | |
| ..... yes | 40% | 44% | 28% | 36% (.067) |
| **Have had paid job:** | 45% | 50% | 40% | 39% |
| **Have had health check up within past year:** | 84% | 84% | 79% | 82% |
| **Have had vaginal intercourse:** | | | | |
| ..... yes | 33% | 30% | 15% | 18% |
| **Number of barriers (out of six):** [b] | | | | |
| …average | 1.8 | 1.8 | 1.9 | 1.9 |

[a] Parental issues include alcohol or drug problem, domestic violence, illness, or incarceration.
[b] Barriers include 3 or more negative peer behaviors, parents scoring 2 or higher on parental issues, poor relationship with mother, unsafe neighborhood, no relationship with faith organization, and low socioeconomic status.

## Table 3—Average Number of Activity Hours Attended Over Three Years by Selected Characteristics

| Characteristic | Average Hours of Attendance[1] |
|---|---|
| **Gender (N=589)** | |
| male | 248 |
| female | 200** |
| **Age (N=589)** | |
| 12-13 | 247 |
| 14 | 203 |
| 15-16 | 203* |
| **Ethnicity (N=490)** | |
| Black | 220 |
| Latino | 246 |
| **Barriers (N=589)** | |
| 0-1 | 241 |
| 2 | 216 |
| 3 or more | 197[(.092)] |
| **Delinquency behaviors (N=589)** | |
| 0 | 239 |
| 1 | 219 |
| 2 or more | 202 |
| **Had vaginal intercourse before entering program (N=582)** | |
| yes | 156 |
| no | 241*** |

*p<.05, ** p < .01, ***p<.001.

1 These hours include attendance at 5 program activities during Fall and Spring program cycles each year.

## Table 4--Three-Year Sexuality and Reproductive Health Outcomes: Total Sample and By Gender

| Outcome | Total Sample | | Females | | Males | |
|---|---|---|---|---|---|---|
| | Program | Control | Program | Control | Program | Control |
| **Reproductive Outcomes** | | | | | | |
| **Change in knowledge** | +22 | +12*** | +24 | +14*** | +19 | +9*** |
| **Chose NOT to have sex under pressure** | -- | -- | 50% | 39% | -- | -- |
| **Has had vaginal intercourse** | 63% | 68% (.098) | 59% | 65% | 69% | 73% |
| **Use of Depo-Provera at last intercourse** | 12% | 5%** | 22% | 9%** | 1% | 2% |
| **Use of condom and highly effective method at last intercourse** | 24% | 23% | 34% | 26% (.099) | 14% | 21% |
| **Use of condom at last intercourse** | 85% | 86% | 79% | 80% | 91% | 92% |
| **Pregnant or caused pregnancy** | 12% | 18%** | 15% | 25%** | 10% | 11% |
| **Births / pregnant carrying to term** | 6% | 8% | 8% | 12% | 5% | 2% |
| **Actual births only** | 4% | 6% | 5% | 10%* | 4% | 2% |

p < .05 ** p < .01 ***p < .001

## Table 5—Three-Year Health Outcomes: Total Sample and By Gender

| Outcome | Total Sample | | Females | | Males | |
|---|---|---|---|---|---|---|
| | Program | Control | Program | Control | Program | Control |
| **Gets health care someplace other than emergency room** | 90% | 82%** | 93% | 90% | 85% | 72%** |
| **Medical checkup in last year** | 84% | 82% | 85% | 87% | 83% | 76% (.094) |
| **Provider at last medical exam did social assessment** | 52% | 42%** | 51% | 48% | 52% | 34%*** |
| **Had hepatitis B vaccine** | 83% | 77%* | 85% | 81% | 80% | 72% (.064) |
| **Teeth checked in last year** | 59% | 62% | 58% | 59% | 60% | 65% |
| **4 or 5 of these health outcomes** | 59% | 53% (.0503) | 62% | 59% | 55% | 44%* |
| **Among the sexually active -- having had a reproductive health visit** | 78% | 62%*** | 86% | 78% (.072) | 69% | 46%*** |

* p < .05 ** p < .01 ***p < .001

## Table 6—Three-Year Work Readiness and Computer Use Outcomes: Total Sample and by Gender

| Outcome | Total Sample | | Females | | Males | |
|---|---|---|---|---|---|---|
| | Program | Control | Program | Control | Program | Control |
| **Has a bank account** | 59% | 32%*** | 60% | 31%*** | 57% | 32%*** |
| **Has had work experience** | 89% | 77%*** | 90% | 78%*** | 87% | 76%** |
| **Computer Use Outcomes** | | | | | | |
| **Uses computer often** | 68% | 62% (.085) | 71% | 62%* | 64% | 63% |
| **Uses word processing** | 81% | 74%** | 87% | 77%** | 75% | 70% |
| **Uses internet** | 81% | 75%* | 77% | 74% | 86% | 76%* |
| **Uses e-mail** | 58% | 49%* | 55% | 46%* | 61% | 53% |
| **3 or 4 of the computer outcomes** | 66% | 57%** | 68% | 57%** | 63% | 57%** |

* p < .05 ** p < .01 ***p < .001)

## Table 7—Three-Year Education-Related Outcomes: Total Sample and by Gender

| Outcome | Total Sample | | Females | | Males | |
|---|---|---|---|---|---|---|
| | Program | Control | Program | Control | Program | Control |
| **Self-reported grades** | | | | | | |
| **A's and B's** | 25% | 22% | 29% | 28% | 20% | 15% |
| **B's and C's** | 48% | 56% | 48% | 54% | 48% | 58% |
| **C's and D's** | 20% | 18% | 18% | 14% | 23% | 22% |
| **D's and F's** | 7% | 4% (.068) | 5% | 4% | 9% | 5% (.098) |
| **Student reports school work has improved** | 44% | 36%* | 44% | 41% | 45% | 30%** |
| **PSAT scores (11th and 12th graders only)[1]** | | | | | | |
| **math** | 37 | 34* | 37 | 34 | 36 | 33 |
| **verbal** | 34 | 30** | 35 | 31* | 30 | 28 |
| **Has made a college visit** | 64% | 49%*** | 66% | 53%** | 61% | 45%** |
| **High school graduation among those in 9th or 10th grade at enrollment (N = 287)** | 62% | 59% | 67% | 63% | 54% | 52% |

* p < .05 ** p < .01 ***p < .001

[1] PSAT's were only administered at the New York sites.

## Table 8—Delinquency and Drug Use Outcomes: Total Sample and by Gender

| Outcome | Total Sample | | Females | | Males | |
|---|---|---|---|---|---|---|
| | Program | Control | Program | Control | Program | Control |
| **Delinquency Outcomes** | | | | | | |
| **Physical fighting** | 29% | 34% | 21% | 22% | 40% | 49% (.072) |
| **Carrying a weapon** | 20% | 22% | 13% | 16% | 28% | 29% |
| **Using a weapon** | 8% | 6% | 3% | 4% | 14% | 9% (.092) |
| **Shoplifting** | 17% | 20% | 12% | 16% | 24% | 25% |
| **Arrests** | 10% | 9% | 4% | 6% | 18% | 14% |
| **Damaged school property** | 10% | 13% | 6% | 7% | 15% | 20% |
| **Two or more of these outcomes** | 25% | 28% | 15% | 18% | 36% | 41% |
| **Drug Outcomes** | | | | | | |
| **Ever use alcohol** | 65% | 69% | 66% | 68% | 63% | 70% (.091) |
| **Initiation of alcohol use among those who had not used at enrollment** | 50% | 55% | 51% | 54% | 49% | 57% |
| **Ever use marijuana** | 48% | 50% | 49% | 46% | 47% | 56% (.077) |
| **Initiation of marijuana use among those who had not used at enrollment** | 37% | 40% | 39% | 34% | 35% | 47%* |
| **Ever use cocaine** | 3% | 2% | 3% | 2% | 4% | 3% |
| **Initiation of cocaine use among those who had not used at enrollment** | 3% | 2% | 2% | 2% | 4% | 3% |

## Table 9: Odds Ratio from Logistic Regression Predicting Selected Third Year Outcomes by Gender

| Predictor Variables | Outcome Variables | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pregnancy | | Birth | | Using Depo-Provera at last intercourse | | Health Outcomes[2] | | Computer Use Outcomes[3] | | Work Experience | |
| | females | males | females | males | females | males | females | males | females | males | females | males |
| Baseline[1] | 5.09*** | 4.80*** | 3.78*** | 7.09* | .28 | .31 | 1.49*** | 1.39** | -- | -- | 1.01 | .82 |
| Age | 1.53** | 1.88** | 1.34 | 3.10* | .97 | .53 | 1.09 | .93 | .99 | .95 | 1.63** | 1.48* |
| Latino [4] | .66 | .69 | .45 | 2.09 | 2.47 | .00 | 1.22 | .47* | 2.19** | 1.15 | 2.82* | .94 |
| African-American [4] | 1.17 | .82 | 1.65 | 1.23 | 1.04 | .00 | .85 | .57 | 1.72 | 1.10 | 1.11 | 1.46 |
| Single parent family [5] | 1.24 | .82 | 1.44 | .97 | .95 | .29 | .72 | .95 | .90 | .57** | 1.12 | .75 |
| Does not live with any parents[5] | .41* | .88 | .73 | .77 | .77 | .19 | .73 | .71 | 1.14 | .59 | 2.91* | .71 |
| Barriers [6] | 1.13 | 1.60*** | 1.19 | 1.53 | 1.02 | 1.16 | 1.04 | 1.04 | .91 | .96 | 1.14 | 1.07 |
| CAS-Carrera program | .49** | .98 | .46* | 2.98 | 2.71** | .58 | 1.15 | 1.55* | 1.57* | 1.26 | 2.82*** | 2.24** |

1 In the equations for pregnancy and births, the baseline measure is whether the teen had intercourse before entering the program.

2 The baseline measure in this equation is not using the ER for care, having hada checkup within the last year, and having a dental check up within the last year.

3 Data on computer use were not collected at baseline.

4 Those of other ethnicity are the reference category.

5 Two-parent families are the reference category.

6 Barriers include a negative peer group, as indicated by friends who engaged in three or more risk behaviors including marijuana use, being in a gang, carrying or using a weapon, damaging school property or being arrested; parents with two or more problems including substance abuse, domestic violence, illness or incarceration; a poor relationship with mother as indicated by low ratings of closeness, feelings that parents did not spend enough time with them, not sharing ideas or talking over important decisions with parents and/or parents not listening to the young person; an unsafe neighborhood as indicated by being asked to sell drugs or reporting that the neighborhood was very unsafe; no relationship with a church or faith center; and low socioeconomic status as measured by the family receiving entitlements and having no adult employed.