Evaluating The Children's Aid Society -Carrera In-School Teen Pregnancy Prevention Program

2011-2014 Tulsa and New York City

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Executive Summary

The Children's Aid Society (CAS)-Carrera Adolescent Pregnancy Prevention Program (CAS-Carrera) is a school-based adaptation of an evidence-based program designed to develop young people's capacity and desire to avoid parenthood and other risky behaviors during adolescence, and help them break the cycle of poverty and despair affecting their full development. CAS-Carrera uses a holistic, "above the waist" approach to ensure young people develop ambitious personal goals, improve their sexual literacy, and cultivate aspirations for a productive future. Guided by a philosophy that sees youth as "at promise" rather than "at risk," CAS-Carrera begins working with boys and girls in middle school at ages 10 or 11, and follows them through high school graduation and college admission. The program provides participants with seven integrated, scientifically accurate¹, and age-appropriate components including:

- daily academic enrichment,
- weekly exposure to the "world of work"/Job Club,
- weekly Power Group/mental health services,
- weekly family life and sexuality education (FLSE),
- comprehensive medical and dental services as needed,
- regularly scheduled lifetime individual sports, and
- regularly scheduled self-expression activities.

The program components are designed to work in concert to build developmental competency, identity formation, and other social and emotional youth development outcomes, ultimately leading to the avoidance of early parenthood. Initially offered as an after-school program, this evaluation focuses on CAS-Carrera's Integrated School Model approach.

Starting in the 2011-12 academic school year, two quasi-experimental evaluations were conducted: one in New York City and the other in Tulsa.

Philliber Research & Evaluation (Philliber) collected survey data from 150 Tulsa CAS-Carrera program youth who were surveyed over three years from February, 2012, through February, 2015. Philliber also collected survey data from 153 comparison youth from February, 2012, through February, 2014. Data were also collected from 219 NYC program youth in Fall 2011 and Fall 2013. This report shows key risk behaviors and progress indicators among program students in Tulsa and then compares them to non-program students who were surveyed in the same grades one year earlier – a lagged cohort design. Additionally, NYC program youth are compared to samples of similar students selected from the 2011 and 2013 Youth Risk Behavior Surveillance (YRBS) databases from New York City maintained by the Centers for Disease Control and Prevention (CDC). Matching procedures were used to select the YRBS samples.

All outcome data were gathered from self-report surveys of youth, providing potential for self-report bias. Additionally, there is a possibility of differential bias, meaning the CAS-Carrera program experience may teach youth the socially desirable response. To minimize such bias,

¹ Reviewed by U.S Department of Health and Human Services and Office of Adolescent Health.



students were assured of confidentiality and asked to be honest in their answers. Additionally, given this was an intent-to-treat evaluation design, an attempt was made to survey all students who were surveyed in Fall 2011 (February, 2012, for Tulsa) in subsequent data collections, regardless of whether they were actively attending the CAS-Carrera program.

The confirmatory hypotheses in this evaluation are stated as follows. Students exposed to the CAS-Carrera program relative to comparison youth will have:

- ✓ Lower rates of teen pregnancy (long-term outcome),
- ✓ Higher rates of sexual abstinence (mid-term outcome),
- ✓ Higher rates of contraceptive use (mid-term outcome), and
- ✓ Fewer risk behaviors such as fighting, drug or alcohol use, or arrests (mid-term outcomes).

Short-term outcomes include knowledge about family life and sexuality education topics, as well as financial literacy. Additionally, there are a number of program service objectives. Relative to comparison youth, program youth should be more likely to have bank accounts and show improved receipt of medical care including annual comprehensive medical, dental, reproductive, and specialty care, psychosocial assessments, Hepatitis B and HPV vaccinations, and care from sites other than the emergency room.

What happened in Tulsa?

In Tulsa, the program began by serving 6th graders. The evaluation followed these young people into the 9th grade. Specifically:

- ➢ 48% were female;
- > 50% were Latino or African-American, 22% were Caucasian, and 23% were multi-ethnic;
- > 100% were middle school students at baseline;
- 39% did not live in two-parent homes, 28% received public assistance or welfare, and 9% lived with an unemployed adult;
- 50% had mothers who graduated from high school and 36% had fathers with this much education;
- > 39% had mothers with at least some college experience and 25% had fathers with such experience.

Relative to comparison youth who were in the 9th grade one year before the program students, what are the statistically significant outcomes for Tulsa 9th grade program youth? The analysis of outcomes focused on the 9th graders, after three years of exposure to the program. Program participation had a positive, independent, and significant effect on two program service objectives (eye exams and bank accounts), and on two short-term program outcomes (family life and sexuality knowledge and financial literacy). Specifically, compared to 9th grade comparison youth, 9th grade program youth:

- were 70% more likely to report having an eye exam within the past year,
- were 68% more likely to report having a bank account,
- scored 27% higher on a scale measuring family life and sexuality knowledge, and
- scored 18% higher on a scale measuring financial literacy.

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While not significant, program youth were 9% less likely to have reported ever having sex (p<.067) and 3% less likely to have ever been pregnant/caused a pregnancy (p<.052), controlling for the effects of demographic variables.

We do not yet find statistically significant differences in the program's desired long-term and mid-term outcomes in Tulsa – sexual activity, pregnancy (although no pregnancies were reported among program participants), or use of contraception. These differences may be more substantial in subsequent years when participants are older and more at risk of these behaviors.

What happened in NYC?

The New York City evaluation began in 2011 with a design similar to that in Tulsa – a lagged cohort design using the class one year ahead of the class receiving program as comparison. However, it became clear that the chosen comparison group was also receiving program services and thus, could not serve as a no-treatment comparison. Instead, two samples of youth were pulled from the 2011 and 2013 NYC YRBS survey data sets, creating an exact match of the program and comparison youth on gender, age, grade, ethnicity, and borough. This is a limited set of variables on which to match so these comparison data might be best viewed as providing context for the outcomes of the program students. Overall, we compared 219 treatment youth in NYC to 219 YRBS comparison youth in both 2011 and 2013.

The NYC program youth included in this study were in grades 9 through 12. Specifically in 2011:

- \geq 68% were female;
- > 62% were African-American, 19% were Latino, and 11% were multi-ethnic;
- > 41% were in the 9th grade, 19% were in the 10^{th} grade, and 40% were in the 11^{th} grade.
- ▶ 40% were from the Bronx, 42% were from Brooklyn, and 18% were from Manhattan.

in 2013:

➢ 73% were female;

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- > 59% were African-American, 27% were Latino, and 11% were multi-ethnic.
- 1% were in the 9th grade, 41% were in the 10th grade, 39% were in the 11th grade, and 19% were in the 12th grade.
- > 40% were from the Bronx, 41% were from Brooklyn, and 19% were from Manhattan.

Relative to comparison youth, what are the statistically significant outcomes for NYC program youth? Results for the 2011 sample indicate that those in the CAS-Carrera program had significantly lower pregnancy rates than the YRBS sample (long-term outcome). Additionally, students in the CAS-Carrera program were more likely to use condoms at last intercourse, engaged in less physical fighting during the past 12 months, were less likely to have ever smoked cigarettes, less likely to have smoked cigarettes in the past 30 days, and less likely to have used alcohol and/or marijuana in the past 30 days (all mid-term outcomes). Specifically, compared to 2011 YRBS comparison youth, 2011 program youth were:

- 7% less likely to report having been pregnant/caused a pregnancy,
 - 33% more likely to report using a condom at last intercourse,

- 13% less likely to report having been in a physical fight during the past 12 months,
- 20% less likely to report ever smoking cigarettes,
- 6% less likely to report having smoked cigarettes during the past 30 days,
- 14% less likely to report having used alcohol during the past 30 days, and
- 16% less likely to report having used marijuana during the past 30 days.

Results also indicate that, among the 2013 sample, for students in the program group there is a positive, independent, and significant effect on four mid-term outcomes (condom use at last intercourse, physical fighting during the past 12 months, ever smoked cigarettes, and marijuana use in the past 30 days). Specifically, compared to 2013 YRBS comparison youth, 2013 program youth were:

- 18% more likely to report using a condom at last intercourse,
- 16% less likely to report having been in a physical fight during the past 12 months,
- 15% less likely to report ever smoking cigarettes, and
- 9% less likely to report having used marijuana during the past 30 days.

Implementation

Implementation data suggest the program was generally delivered with regularity in Tulsa but not as much in the New York City sites. There was moderate staff turnover in both NYC and Tulsa. Fidelity data and daily attendance data were not collected during this study.

Discussion

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The Tulsa and NYC sites are, of course, very different especially in age, grade and ethnicity. They serve different populations of students in different settings. In Tulsa, comparison data came from students in the same school system, whereas in NYC the CDC does not disclose the school sites from which the student surveys are collected. Still, some of the trends found in these two locations are similar.

The CAS-Carrera model is strong enough to saturate a school. While this challenged our original design, it is a positive indicator of the potential of this integrated in-school model. The in-school version of the program can be delivered at lower cost than the after-school version given the larger number of youth served in the in-school model. The in-school model reaches a larger number of youth than a typical after-school program and serves students who might not normally join an after-school program.

However, there are challenges to this delivery strategy. The lower student to staff ratio in a typical after-school program is not present in the in-school model. A typical after-school CAS-Carrera program serves approximately 50 to 60 youth, whereas the in-school model can serve over 200 youth per grade. Additionally, the program needs to adapt to the scheduling, logistical, and administrative demands of the school, constraints that are less problematic in an after-school program. Still, the in-school model allows for many full-time staff that an after-school program cannot accommodate. Additionally, program staff believe that while the in-school version of the

program has some challenges, the benefits of being in the school outweigh

these challenges since it allows for greater contact with the students and better linkages with students' teachers.

Because of the limitations of this study in NYC with regard to the YRBS comparison data and the underpowered sample sizes in Tulsa, this research is at best suggestive of the model's potential and additional study is recommended to better measure the effectiveness of the in-school version of the CAS-Carrera program model.

The Children's Aid Society (CAS)-Carrera Program

In 1984, Dr. Michael A. Carrera and The Children's Aid Society (CAS) developed an Adolescent Pregnancy Prevention Program that uses a holistic approach to empower youth, to help them develop personal goals and the desire for a productive future, in addition to developing their sexual literacy and educating them about the consequences of sexual activity. In its after-school model, the program worked with boys and girls 13-15 years old and followed them through high school and beyond. Guided by a philosophy that sees youth as "at promise" instead of "at risk," CAS-Carrera works to develop a participant's capacity and desire to avoid pregnancy. The program model also provides opportunities for young people to discover interests and develop talents, as well as emphasizing education and employment. CAS-Carrera sees the sum of these activities as having a contraceptive effect.

The model includes seven fundamental components:

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- 1. **Education:** Daily (and Saturday) homework help, remediation, and enrichment with trained teachers and tutors driven by Individual Academic Plans (IAP) for each participant;
- 2. **Employment/Job Club:** Weekly exposure to the "world of work," including earning stipends, opening bank accounts, exploring career choices, and participating in entrepreneurial projects;
- 3. **Family Life and Sexuality Education (FLSE):** Weekly comprehensive, medically accurate sexuality education sessions taught in an age-appropriate fashion by a trained professional;
- 4. **Self-Expression:** Weekly music, dance, writing and drama workshops led by theater and art professionals, where children can discover talents and build self-esteem;
- 5. Lifetime Individual Sports: A fitness program emphasizing sports that build self-discipline and can be played throughout life, including golf, squash, swimming, and others;
- 6. **Full Medical and Dental Care:** Comprehensive medical and dental services provided in partnership with local providers;
- 7. **Mental Health Services:** Weekly discussion groups led by licensed social workers; individual counseling, case management, and crisis intervention as needed.

As an <u>after-school program</u>, this approach has been evaluated (1997-2000) using a random assignment design across six sites in New York City and elsewhere—a strong level of evidence. Results of the evaluation in New York City found that, compared to controls, girls in

the program were 18% less likely to have had sex, 55% less likely to become pregnant and 80% more likely to use dual methods of contraception at last intercourse.²

In 2006, CAS-Carrera staff members created a school-based model of the program, delivering all of its original services over several years but integrating the program into the normal school day. Beginning in Fall 2008, the program has been offered in four schools in New York City and one school in Tulsa (beginning in February 2012). These sites are:

- 1. Academy for Scholarship and Entrepreneurship (ASE), Bronx, NY
- 2. Bronx Preparatory Charter (BPC), Bronx, NY
- 3. Opportunity Charter School (OCS), Manhattan (Harlem), NY
- 4. Urban Assembly Institute of Math and Science for Young Women (UAI), Brooklyn, NY
- 5. Union Public School (UPS), Tulsa, OK³

CAS-Carrera provides its programming to young people in underserved communities, characterized by higher than average rates of poverty, unemployment, teen pregnancy, and high school dropout rates. In NYC, CAS-Carrera is serving high-needs communities in Brooklyn, Harlem, and the Bronx. Additionally, at the time of initial engagement with stakeholders, Tulsa had the second highest birth rate in the country among teens aged 15 to 19.

The staffing structure in a CAS-Carrera program includes: one Program Director, one Community Organizer, and individual component leaders and social workers (licensed mental health professionals). The Program Director is responsible for day-to-day operations of the program, including guidance, training, and supervision of program staff. This person works directly with school leadership staff and insures the program maintains fidelity to the model. The Community Organizer builds relationships between youth, their families, and program staff. They may work with local agencies, make home visits, coordinate medical/dental appointments, and even chaperon medical/dental visits. This person serves as a back-up to the Program Director when he/she is unavailable. All staff are monitored closely by CAS-Carrera implementation/ fidelity managers.

Programming is delivered to students by trained CAS-Carrera program facilitators who receive ongoing staff development. All staff are experienced professionals with an undergraduate degree in a relevant discipline; many have advanced degrees and training. Staff also have component/content knowledge and youth development experience. CAS-Carrera organizes orientations and ongoing trainings to ensure that (new) staff are appropriately acclimated to the model's core principles and philosophy and are sufficiently trained to be able to execute the model as prescribed by their role. In addition, CAS-Carrera staff provide TA for effective program delivery and overall problem solving.

³ There are actually three separate school buildings about a half mile apart in Tulsa: Union 6th and 7th Grade Center, Union 8th Grade Center, and Union 9th Grade Center.



² Philliber, S., Williams Kaye, J., Herrling, S., & West, E. (2002). Preventing pregnancy and improving health care access among teenagers: An evaluation of the Children's Aid Society–Carrera Program. Perspectives on Sexual and Reproductive Health, 34(5), 244–251.

This report focuses on the in-school integrated model in these five schools. In this model, students attend weekly CAS-Carrera components during the school day as class periods. Class time for components is provided during the school day through advisory and guidance periods, resource time, and other time slots where CAS-Carrera program staff can provide programming. The medical/dental component is offered as needed. In this model, new cohorts of youth are added each program year as the previous cohort moves up in grade which increases the size of the population of program participants (doubling in the second year, tripling in the third year, etc). An early study of the integrated school model conducted by Brigham Nahas Research Associates⁴ in 2008 stated that this approach "allows for broader reach, serving many more students that can be accommodated in after school programs, allowing for greater economies of scale and, as such, a lower cost per participant." This approach ensures content dosage over a long period of time and provides for swift recognition and follow-up of mental health and medical/dental problems – the issues which can negatively affect learning and growth. The logic model for the program shows its main activities, and its expected shorter-term and longer-term objectives.

CAS-Carrera Program Logic Model					
Activities	Program Service Objectives	Shorter-term Objectives	Longer-term Objectives		
School leadership and Carrera staff for each school are trained in program theory, philosophy, logic model, and full curricula for each component and philosophy Students will receive all core components of the program including: • Job club • Academic assistance • Medical and dental care • Family life and sexuality education • Lifetime individual sports • Self-expression • Mental health (Power group)	 Relative to comparison students, program students will: Have bank accounts. Have improved receipt of medical care including annual comprehensive medical, dental, reproductive, and specialty care psychosocial assessments, Hep B and HPV vaccinations, and care from sites other than the ER. 	 <u>Short-term Outcomes</u> Relative to comparison students, program students will: Gain greater knowledge about sexuality and reproduction. Gain greater financial literacy. <u>Mid-term Outcomes</u> Be more likely to be sexually abstinent. If sexually active, be more likely to use protection from pregnancy and STIs. Improve their academic performance. Engage in fewer risk behaviors such as fighting, drug or alcohol use, or arrests. Teachers with students in the program will be more likely than teachers whose students have not been exposed to: 	 Relative to comparison students, program students will have: Lower rates of teen pregnancy. Lower rates of teen births. In future years beyond the current research, program students will have: Higher rates of high school graduation. Higher rates of college admission. 		

⁴ Children's Aid Society/Carrera Integrated School Model: Documentation of Early Implementation in Four Schools. Brigham Nahas Research Associates; Roblyn Anderson Brigham and Jennifer Nahas. October 2008.

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	 Report more school engagement among their students. Report that student problems receive swifter intervention. Report they are able to increase their instructional time. 	
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Section I: The CAS-Carrera In-School Model in Tulsa



Methods

In Fall 2011, staff and administrators at the Union 6th and 7th Grade Center (Union Public Schools) in Tulsa selected over 200 6th grade youth to participate in the CAS-Carrera program. These youth were perceived to be those with the greatest social, emotional, and academic needs. Specifically they chose youth who lacked positive adult mentors, who needed regular medical/dental/vision care, had low scores on state assessments, were below grade level in reading, had a parent or a sibling who was a teen parent, had disengaged parents, and/or who had a known history of trauma (domestic violence, abuse, separation from family, instability at home, multiple losses). Parents were given the choice to opt out of the program. These selection criteria were also used to select comparison youth from the student cohort just above the 6th graders in the program (7th graders).

Data collection began in February, 2012 with a survey of 201 6th graders receiving the program and 192 comparison students in the 7th grade. The numbers surveyed in each subsequent year are shown in Table 1 below. Thus, program youth can be compared to the students one grade ahead of them after a delay of one year—a lagged cohort design. Those surveyed in February 2012 comprised an intent-to-treat design and were rigorously followed for three years, whether or not they received three years of programming or were retained in the school. Overall, there were 150 program youth and 153 comparison youth who were surveyed at all three data collection points as 7th graders, 8th graders, and 9th graders. Eighth graders attend the Union 8th Grade Center and 9th graders attend the Union 9th Grade Center.

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Data Collection Point	6 th grade	7 th grade	8 th grade	9 th grade	
February 2012	201 program	192 comparison			
February 2013		181 program	173 comparison		
February 2014			182 program	155 comparison	
February 2015				178 program	

Table 1: Number surveyed in Tulsa over time

In Tulsa, generally the 7th grade program youth had one year of program exposure (dosage), 8th graders had two years, and 9th graders had been in the program for three years. Inactive program youth may have been removed from the program by their parents, and both program and comparison youth might have moved or transferred to other schools. In Tulsa, the program and comparison youth are housed in separate buildings a half mile apart so there is little or no contamination. This analysis however, is somewhat under-powered, given the small sample sizes.

The attrition rate among program youth was 17% and among comparison youth it was 20%. These youth were lost to follow-up and were not surveyed. The program youth surveyed in February 2012 who were <u>not</u> surveyed in subsequent data collections were compared to those who were surveyed. These program youth were significantly more likely to live with neither parent, to live in families who receive public assistance, to not report parental employment, and/or to not report parental education. This suggests that they are more "at-risk" than students surveyed every year.

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At final follow-up, 13% of the surveyed Tulsa program youth included in this report were inactive youth (they had left the study schools at some point during the three-year period). These youth did not differ significantly from those who remained active in the study for all three years.

Still, as shown in Table 2, the resulting analytic samples were well matched. There were no significant differences in grade seven (the first comparison point) between the program and comparison students, except age. On average, comparison youth were two months older. Both samples are ethnically and socioeconomically diverse.

Demographics	Program Tulsa	Comparison
Demographics	(n=150)	Tulsa (n=153)
Gender:		
Male	52%	58%
Female	48%	42%
Ethnicity:		
African-American	23%	20%
Caribbean	0%	1%
Latino	27%	21%
Caucasian	22%	29%
Asian	3%	1%
Multi-ethnic	23%	23%
Other	2%	5%
Average age:	13.1	13.3**
Living situation:		
Two-parents	61%	66%
Single parent	33%	29%
Other	6%	5%
% in foster care:	1%	2%
% who live in family that receives public assistance/welfare:	28%	20%
% who live with unemployed adult:	9%	7%
Mother's education:		
Less than high school	11%	11%
High school graduate	11%	21%
Some college	17%	13%
College graduate or more	22%	21%
Don't know/not reported	39%	34%
Father's education:		
Less than high school	10%	8%
High school graduate	11%	19%
Some college	12%	7%
College graduate or more	13%	18%
Don't know/not reported	54%	48%

Table 2: Demographics and family characteristics among program and comparison vouth in Tulsa in 7th grade

Difference is statistically significant at $**\rho < .01$.

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Student survey data

The evaluation team collected and computer-entered all data, using a self-report survey (see Appendix A) including questions about demographics, family composition, socio-economic status, health care, educational aspirations and other school-related items, employment, financial literacy, recreational activities, drug use, violence and delinquency, involvement in the juvenile justice system, communication, sexuality knowledge, sexual activity, contraceptive use, and pregnancy. The 30-item family life and sexuality education (FLSE) knowledge items were developed by CAS-Carrera staff to track knowledge gained about communication, parental involvement, puberty/human development, sexual and reproductive anatomy, STI/HIV prevention and treatment, social and emotional development, conception/pregnancy/ contraception, sex and gender, and sexual abstinence.

All data were computer-entered at Philliber and subsequently analyzed. Demographic data were presented as frequencies with computed means as appropriate. Outcome data were analyzed using ANOVAs. Regression analyses were performed to determine if program participation was related to outcomes. To predict outcome variables, the independent variables were: program assignment, gender, age, and ethnicity.

Teacher survey data

As part of this evaluation, Philliber surveyed teachers online in 2012 and 2013 to assess their perceptions of the program in their schools (see Appendix B). In Spring 2012, 10 out of 12 teachers responded, and in Spring 2013, 39 out of 44 teachers responded. Questions included items measuring their involvement and knowledge of the program, interaction with program staff, perceptions of student improvement, perceptions about the effectiveness of the components, timeliness of the intervention, and perceptions of program impacts.

Student attendance data (dosage)

Daily attendance data were unavailable for this study. However, dosage can generally be inferred based on length of stay in the program given the in-school program structure. In Tulsa, 7th graders had generally been in the program for one year, 8th graders for two years, and 9th graders for three years.

Validity

The level of evidence in this evaluation is preliminary at best. In Tulsa, participants went through a selection process for inclusion in this study.

Logistics

Philliber staff collected all of the teacher surveys via Survey Monkey. Additionally, over 98% of the student survey data were collected by Philliber staff during yearly scheduled oneweek data collections. Philliber staff read the survey items and response choices to all students.

Youth were reassured of confidentiality and asked to be honest in their

answers. If youth were not present during the one-week scheduled data collections, CAS-Carrera program staff collected survey data at a later time. These program staff had youth complete the surveys in a quiet area with no distractions. These youth were instructed to seal their completed surveys in an envelope and deliver them to the Program Coordinator who then mailed the surveys to Philliber. CAS-Carrera program staff never viewed student data.

Inactivity and attrition

Since this was an intent-to-treat design, Philliber attempted to resurvey every youth who was surveyed at baseline in subsequent data collections. Philliber mailed surveys to inactive youth (those who had left the study schools) and also made follow-up phone calls to remind inactive youth to complete their surveys. All middle school youth received a \$15 cash stipend and high school youth received a \$25 cash stipend for a completed survey. At final follow-up, 13% of the Tulsa program youth included in this report were inactive (they had left the study schools at some point during the three-year period). These surveyed inactive youth did not differ from those who remained active in the study for all three years.

The attrition rate among program youth was 17%. Youth leave the schools due to transferring to a different school or moving to a new neighborhood and either cannot be found or decline to be surveyed. Students also transfer to new schools to receive specialized academic concentrations or sports.

Data storage

All data were computer-entered into SPSS data files with assigned Philliber IDs. Student names were kept separately and were not linked to survey data. All paper data from this study were kept in a locked storage facility. There were no problems with agreements for data access, storage, use, or reporting. There were no changes to Memoranda of Understanding (MOU's).

Data from each annual data collection were stored in separate SPSS files and merged to create one "master file". Each year's data had different variable names to help distinguish one year from the next (i.e. ever had sex1, ever had sex2, ever had sex3, etc).

Data cleaning and missing data

All data went through an extensive cleaning process. All surveys were checked for accuracy to ensure data entry was correct. During data analysis, inconsistent data were removed depending on the variables being measured. For example, if a participant checked "yes" for having sex at baseline but then checked "no" on a subsequent survey, this participant's data were removed from that calculation. If a participant checked "yes" for having sex in the past three months but left the ever had sex question missing, the missing data were filled in. This logic applied throughout the analysis. Philliber imputed all variable values possible. For example, if a student was Latina on the first two surveys, and left ethnicity blank on the last survey, she was coded as Latina. If the data on ever had sex and use of contraception were inconsistent, (i.e., denies ever had sex but uses contraception), older surveys were consulted and a weight-of-

evidence approach was used. Throughout this study, missing data were less than 5% on any given indicator.

IRB

This study was fully approved by an IRB. There were no changes made to the IRB protocol or to personnel on the evaluation team during the study. Currently the study is closed. A budget change in 2014 added additional funds to pay for the final Tulsa data collection.

Evaluator role/involvement and budget

There were no changes regarding the role of the evaluator. The senior staff member overseeing this evaluation at Philliber remained consistent for the duration of this study.

Levels of significance

Throughout this report, asterisks (*) indicate whether or not a difference or change is statistically significant. The "levels of significance" indicate the likelihood that an observed difference or change may be due to chance. Thus, when differences are marked with one asterisk (*), it is an indication that the difference would occur by chance alone less than 5% of the time. Two asterisks (**) denote differences that could have occurred by chance alone less than 1% of the time, and three asterisks (***) mean that only 1 time in 1,000 would a difference this large occur by chance alone. In other words, these differences are likely to be "real" rather than being statistical artifacts produced by sampling errors. This report includes a large number of analytical comparisons and thus some likelihood that differences may emerge by chance. For example, there were 37 comparisons made between 9th grade program and comparison youth in Tulsa: 29 (or 78%) favored the program youth and 5 (13%) favored the comparison youth.

Implementation

It is important to note that the Tulsa site currently serves a much larger number of program youth than are included in this report. This section of the report reflects only those youth who were surveyed in February 2012 and subsequently followed for three years as per the design of this study.

In a typical after-school CAS-Carrera program, the academic component is offered daily (Monday through Friday), and Job Club, FLSE, and Mental Health are offered weekly. The dosage requirement for self-expression and individual lifetime sports is to have at least two exposures per year which are offered as part of weekly scheduled programming, and/or during school breaks and summer. Medical services/referrals are offered as needed. In the in-school model, the academic component is offered daily, and Job Club, Mental Health, and FLSE are offered weekly (Table 3). Tulsa program staff report that during the first program year (February through June 2012), program services/curricula were not delivered with as much regularity as in subsequent years. Some components were being delivered through classroom pull-outs.

Table 3: Component delivery					
Site and components	2011-2012 ⁵	2012-2013	2013-2014	2014-2015	
Tulsa					
Academic	Daily	Daily	Daily	Daily	
Job Club	Weekly	Weekly	Weekly	Weekly	
FLSE	Weekly	Weekly	Weekly	Weekly	
Mental Health	Weekly	Weekly	Weekly	Weekly	
Self-expression	Weekly	Weekly	Weekly	Weekly	
Lifetime individual sports	Weekly	Weekly	Weekly	Weekly	
Medical services/referrals	As needed	As needed	As needed	As needed	

Table 3: Component delivery

The CAS-Carrera program provides fidelity management and oversight to the Tulsa inschool site. This site has a Fidelity Manager in addition to content specialists for Mental Health, FLSE, and Job Club, as well as academic support staff. CAS-Carrera also provides ongoing performance management through the Carrera Management Information System (CMIS). However, the formalized collection of observation or fidelity data was not included as a part of this study design.

The Tulsa site experienced moderate staff turnover during this three-year study. The Program Director position turned over three times at this site. Additionally, there have been some component leader and social worker/mental health specialist turnovers.

Teacher Perceptions of the CAS-Carrera program

Ten Tulsa teachers completed a survey in Spring 2012 and 39 completed a survey in Spring 2013. Over 80% of the teachers were female and Caucasian. Over 90% of them claimed to have at least some knowledge of the CAS-Carrera program. Their teaching experience varied but 41% had six years or less as teachers.

⁵ This first year reflects February 2012 through June 2012.



Overall, teachers believed that the program had made a positive impact on their students. Specifically, they reported:

- Interacting with CAS-Carrera staff on issues "somewhat often."
- Student gains in sexual awareness, knowledge, general well-being, self-confidence, academics and/or behavior.
- Favorable ratings on the effectiveness of the CAS-Carrera components.
- Improved timeliness of interventions and/or processes at their schools since the CAS-Carrera program was created.
- The CAS-Carrera program had some (42%) or a great deal (13%) of positive impact on their students.
- Improved student knowledge about puberty/development as a result of the CAS-Carrera program.

Overall, school staff perceive the program has had a positive impact on their students.

Program Outcomes

The analytic sample used to examine outcomes includes 150 9th grade Tulsa program youth and the 153 9th grade comparison youth who all completed surveys at all three data collection points (as 7th graders, 8th graders, and 9th graders). We emphasize the 9th grade results because these students have had a full three-year exposure to the CAS-Carrera program and because these older students are more likely to be engaging in sexual risk behaviors than the younger students. The outcome exploration begins with differences in frequencies of outcomes among program and comparison students and when positive and significant differences are found, moves to a regression analysis to better isolate the role of the program in producing these outcomes. Appendix C provides detailed information on the specific statistical tests used in Tulsa by grade.

100%

80%

60%

40%

20%

0%

Long Term Program Outcomes

Pregnancy

The CAS-Carrera program seeks lower rates of pregnancy among the students they enroll than among comparison youth. There were no pregnancies reported among program youth (Figure 1), significantly fewer than among comparison youth. This difference occurred among 8th grade youth as well. Among comparison youth reporting a pregnancy, three were male and two were female.

Mid-term Program Outcomes

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Sexual Behavior and Contraceptive Use

Other confirmatory hypotheses are that CAS-Carrera program youth will have higher rates of sexual abstinence and will be more likely than comparison youth to use contraception when having sex. As seen here, 9th grade program youth were significantly less likely than comparison youth to report ever having sexual intercourse (Figure 2). This significant difference did not occur until youth reached the 9th grade.

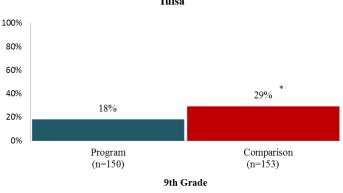


Figure 2: Percent who have had sexual intercourse in Tulsa

9th Grade

Difference is statistically significant at *p<.05



0%

Program

(n=150)

Difference is statistically significant at *p<.05

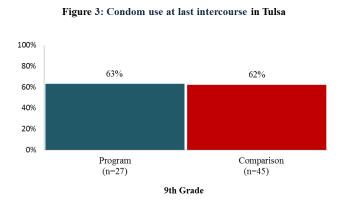
3%*

Comparison

(n=153)

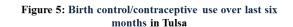
Figure 1: Pregnancy in Tulsa

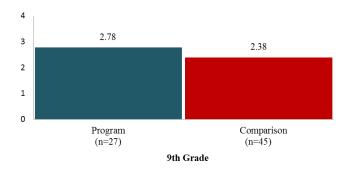
Program students who had had sexual intercourse were not significantly more likely than comparison students to report using a condom at last intercourse (Figure 3). Very few sexually experienced youth in Tulsa reported using a condom and a non-coital method of contraception such as Depo-Provera or birth control pills at last intercourse (Figure 4) and these behaviors did not differ significantly between program and comparison students.



Students were asked to indicate how frequently they used birth control or contraception in the past six months. An overall score was created where 0='never,' 1='some of the time,' 2='about half the time,' 3='most of the time,' and 4='every time.' As seen in Figure 5, program students reported more frequent use of contraception/birth control than comparison students, but these differences are again from very small samples and are not statistically significant. This pattern appeared among younger youth as well. intercourse in Tulsa 100% 80% 60% 40% 20% 4% 7% 0% Program (n=27) Comparison (n=45) 9th Grade

Figure 4: Use of condom and non-coital method at last





Other confirmatory hypotheses tested were that CAS-Carrera program youth will engage in fewer risk behaviors such as fighting, drug or alcohol use, and that they would be less likely to be arrested.

Violence and Delinquency

As seen in Figure 6, there were no significant differences among program and comparison students in physical fighting.

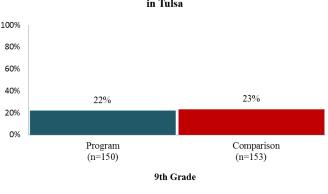
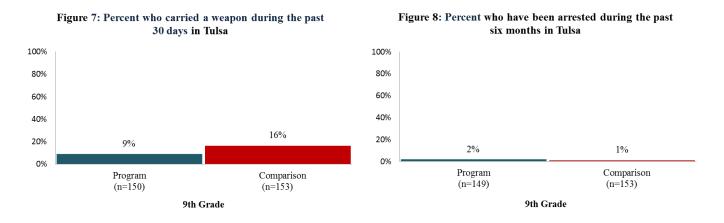


Figure 6: Percent in a physical fight during the past year in Tulsa

Similarly there were no significant differences in carrying a weapon (Figure 7) nor in arrests (Figure 8).



Drugs and Alcohol

These data show no significant differences between program and comparison students in ever having smoked cigarettes or in having smoked in the past 30 days (Figure 9).

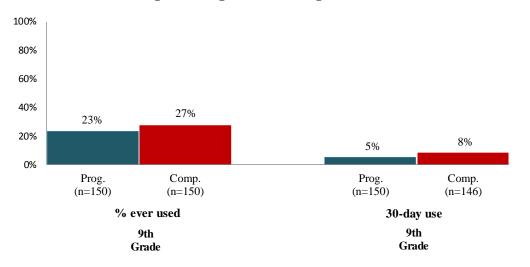


Figure 9: Cigarette smoking in Tulsa

Similarly, ever using alcohol or recent alcohol use did not differ between these two student groups (Figure 10).

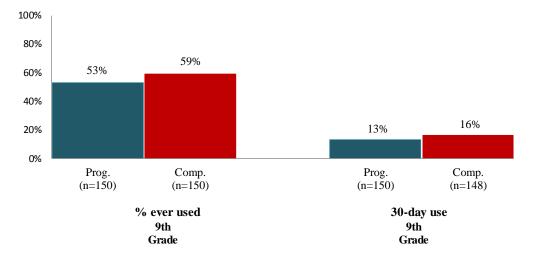


Figure 10: Alcohol use in Tulsa

Marijuana use did not differ between program and comparison youth. In data not shown here, 8th grade program youth were significantly less likely to report recent use of marijuana than comparison students but by the 9th grade, the rates were about equal.

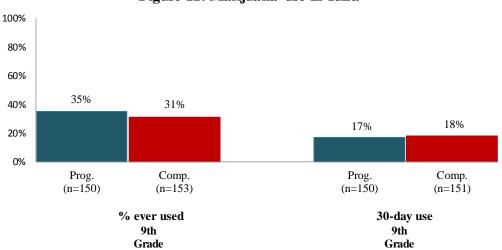


Figure 11: Marijuana use in Tulsa

Academic Indicators

Also examined were differences between CAS-Carrera 9th grade program and comparison students in college plans, frequency of turning in homework on time, and having to attend summer school because of poor academic performance.⁶ There were no significant differences in any of these outcomes between these two groups.

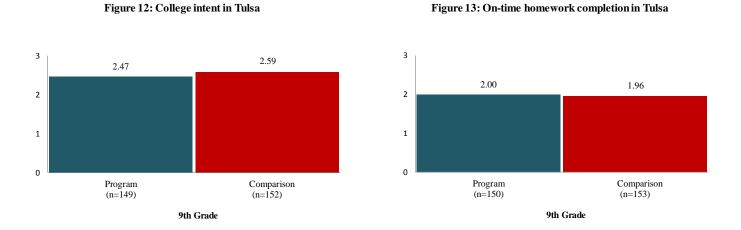
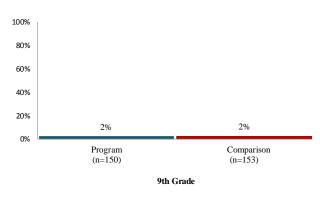


Figure 14: Summer school attendance the previous Summer in Tulsa



⁶ To compare college plans between groups, a 4-point scale was created where 1='definitely not,' 2='probably not but maybe,' 3='yes, but later – not right after high school,' and 4='yes, right after high school.' Higher scores indicate greater intent on going to college. To compare homework completion over time, a 4-point scale was created where 1='hardly ever,' 2='sometimes,' 3='usually,' and 4='always.' Higher scores indicate more frequent on-time homework completion.



Short-term Program Outcomes

Expected short-term program outcomes were improved knowledge about sexuality and reproduction and financial literacy.

Family Life and Sexuality Education (FLSE)

Program youth had significantly higher family life and sexuality education knowledge scores than comparison youth (Figure 15). This difference appeared among 8th grade youth as well. Table 4 shows the sub-topic FLSE scores. Tulsa program youth scored significantly higher than comparison youth in all subtopic areas.

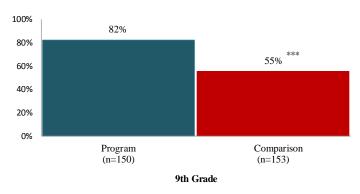


Figure 15: FLSE knowledge scores in Tulsa

Difference is statistically significant at ***p<.001

Table 4: FLSE sub-topic scores in Tulsa

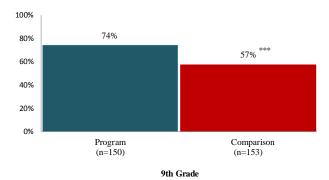
	% Correct	
	Prog. (n=150)	Comp. (n=153)
Puberty/Human development	97%	87%***
Parental involvement	91%	81%*
Social and emotional development	84%	74%**
STI/HIV prevention and treatment	80%	61%***
Sexual abstinence	82%	54%***
Sexual and reproductive anatomy	83%	53%***
Conception/Pregnancy/ Contraception	75%	43%***
Sex and gender	82%	40%***
Communication	69%	16%***

Difference is statistically significant at *p<.05 / **p< .01 / ***p< .001.

Financial Literacy

Young people were asked four questions designed to measure financial literacy. When combined into an overall measure, financial literacy was significantly greater among program students than among comparison students (Figure 16). This advantage for program youth appeared in both the 7th and 8th grades as well. The Job Club component specifically addresses financial literacy.

Figure 16: Financial literacy in Tulsa



Difference is statistically significant at *** p<.001

Program Service Objectives

The service objectives for the CAS-Carrera program include students having bank accounts and improved receipt of medical care.

Bank Accounts

Program students were significantly more likely than comparison students to report having a bank account (Figure 17) and this difference emerged among 7th graders shortly after enrollment.

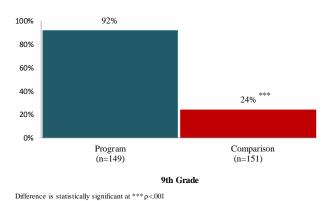
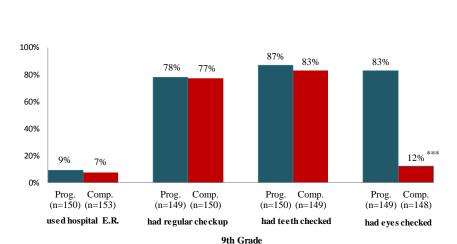


Figure 17: Percent who have a bank account in Tulsa

Health Care

Among 9th graders there was no significant difference between program and comparison youth in using the emergency room as their only source of health care (Figure 18), nor was there a difference between these groups in having regular checkups or a dental exam within the past year. Program students were significantly more likely than comparison students to report having an eye exam within the past year. The CAS-Carrera program in Tulsa instituted an eye glasses program that likely accounts for this large difference.

Figure 18: Percent who ...



Difference is statistically significant at *** p<.001

Regression Analysis: Tulsa

A linear regression analysis was conducted to control for gender, age, and ethnicity and determine whether and to what degree being in the CAS-Carrera program remained significantly related to the outcomes reported above. The entire list of outcomes was examined but no new significant relationships with program participation appeared (Table 5). As seen below, program participation had a positive, independent, and significant effect on four interim outcomes: FLSE knowledge, receipt of eye exams, having a bank account, and financial literacy. Additionally (although not significant), program youth were 9% less likely to have reported ever having sex (p<.067) and 3% less likely to have reported ever been pregnant/caused a pregnancy (p<.052).⁷

using a linear regression model				
Dependent variables	Percentage difference in outcome between program and comparison students, net of gender, age, and ethnicity			
Long-term Program Outcomes:				
Ever been pregnant/caused a pregnancy (1=yes, 0=no):	029			
Mid-term Program Outcomes:				
Ever had sexual intercourse (1=yes, 0=no):	090			
Condom use at last intercourse (1=yes, 0=no):	037			
Use of condom and non-coital method at last intercourse (1=yes, 0=no):	034			
Frequency of birth control use in the past 6 months:	.280			
In physical fight during past 12 months (1=yes, 0=no):	.011			
Carried a weapon during past 30 days (1=yes, 0=no):	059			
Arrested during past 6 months (1=yes, 0=no):	.007			
Ever smoked cigarettes (1=yes, 0=no):	023			
Smoked cigarettes in the past 30 days (1=yes, 0=no):	032			
Ever used alcohol (1=yes, 0=no):	072			
Used alcohol in the past 30 days (1=yes, 0=no):	026			
Ever used marijuana (1=yes, 0=no):	.056			
Used marijuana in the past 30 days (1=yes, 0=no):	015			
College intent:	159			
Homework completion:	.024			
Short-term Program Outcomes:				
FLSE scores:	.266***			
Financial literacy:	.175***			
Program Service Objectives:				
Having a bank account (1=yes, 0=no):	.676***			
Using the ER as the only source of health care (1=yes, 0=no):	.029			
Having had a regular checkup within the past year (1=yes, 0=no):	.021			
Having a dental exam within the past year (1=yes, 0=no):	.042			
Having had an eye exam within the past year (1=yes, 0=no):	.700***			

Table 5: Relationships of program participation and outcomes among Tulsa 9 th grade students
using a linear regression model

Difference is statistically significant at ***p<.001.

Note: Gender, age and ethnicity were included as independent variables in these regressions.

⁷ The difference between program and comparison youth on these two measures was significant when looking at simple ANOVAs. However, when controlling for demographic variables in regression analyses, these differences were no longer significant.



Section II: The CAS-Carrera In-School Model in New York City



Methods

In NYC sites, all students who enter a CAS-Carrera program grade are deemed CAS-Carrera students. There are no selection criteria for enrollment. There were 346 program participants surveyed by Philliber at these sites in Fall 2011. Also, in Fall 2011, 290 comparison students (those with no program intervention) in the grades immediately in front of the program students were surveyed. For example, at BPC 93 8th grade program students and 99 comparison 9th grade students were surveyed in Fall 2011. In Fall 2012, 87 of those program youth were surveyed again. These 87 youth were 9th graders in Fall 2012. These 87 youth were also surveyed in Fall 2013. Table 6 shows the number of youth surveyed per group in Fall 2011, 2012, and 2013.

School		Program		Comparison	
	Fall 2011	Fall 2012	Fall 2013	Fall 2011	Fall 2012
BPC (NYC)	93 (8 th grade)	87 (9 th grade; 94%)	87 (10 th grade; 94%)	99 (9th grade)	85 (10 th grade; 86%)
UAI (NYC)	109 (9 th grade)	101 (10 th grade; 93%)	91 (11 th grade; 83%)	67 (10 th grade)	60 (11 th grade; 90%)
OCS (NYC)	49 (10 th grade)	44 (11 th grade; 90%)	41 (12 th grade; 84%)	52 (11 th grade)	46 (12 th grade; 88%)
ASE (NYC)	95 (11 th grade)	87 (12 th grade; 92%)	А	72 (12 th grade)	na
Total	346	319 (92%)	219 (87%) ^C	290	191 (88%) ^B

Table 6: Number surveyed in Fall 2011, Fall 2012, and Fall 2013 in NYC

^A There were 12 seniors from Fall 2012 who were retained in grade in Fall 2013. These students have been removed from the analysis.

^B This percentage is based on 218 possible comparison students. At ASE there were no comparison students left in Fall 2012.

^C This percentage is based on the BPC, UAI, and OCS samples.

The NYC sites serve a much larger number of youth than are included in this report. In Fall 2011, there were over 1,400 program youth surveyed across all four sites. However, only 346 met the requirements of the lagged cohort design (they could be compared to non-program youth after one year). These 346 program youth and 290 comparison youth were part of an intent-to-treat design, meaning they were rigorously followed for three years.

The initial intention was to use a lagged cohort design in NYC, where program youth could be compared to non-program youth after one year. However, the first year analysis of the outcome data obtained from program and non-program students showed achievement of some of the expected interim outcomes such as greater knowledge about sexuality or greater financial literacy, but no data suggesting that the program was having the expected effects on rates of sexual activity, use of contraception, or pregnancy. It also became apparent that each of these schools had other programs, some with similar services to the CAS-Carrera program. Both program staff and non-program students were also making comments to the evaluation team that led us to suspect that the intended comparison group was receiving program services.

Interview data from NYC teachers and focus groups with non-program youth in NYC

In December 2013 and January 2014, interview data with NYC program staff and school staff and focus group data with youth were conducted by Philliber at the four NYC CAS-Carrera sites. The purposes for this data collection were to determine: how aware the non-program youth were of the CAS-Carrera program; the extent to which non-program youth were receiving

services from program staff; what other school services similar to CAS-

Carrera services were being delivered to both the program and non-program youth in the schools; and the successes and challenges in implementing the integrated school version of the CAS-Carrera program.

Specifically, in December 2013 and January 2014, Philliber conducted interviews with 36 CAS-Carrera program staff members (program directors, community organizers, coordinators,

and social workers) and 22 administrative staff (heads of school, principals, teachers, deans, social workers, supervisors, and counselors) at the four program schools (Table 7). In addition, four focus groups were conducted with 73 nonprogram students at BPC and UAI. Forty-six youth participated from BPC and 27 from UAI. All youth were in the 11th or 12th grades.

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Table 7: Number of NYC interviews			
School	School staff	Program staff	
ASE	4	5	
BPC	5	8	
OCS	10	10	
UAI	3	13	

These NYC interview data suggested high satisfaction with the CAS-Carrera program but clear contamination of the comparison group of students since the program's services had spread rapidly throughout the schools. School administrative staff commented that they had frequently sent non-program youth to CAS-Carrera staff members for services. Additionally, CAS-Carrera staff commented that they had frequently served non-program youth when there was a need identified by school staff.

It thus became clear that using the comparison group data in the NYC schools would provide little benefit to the evaluation. In Spring 2014 the study began using NYC Youth Risk Behavior Surveillance (YRBS) high school data for comparison. Finding comparison schools in the NYC neighborhoods was not logistically possible, nor was funding available for that option. Therefore, for each of the four NYC CAS-Carrera program sites, a comparison group of students was selected using propensity score matching on borough, grade, gender, race, and ethnicity. A total comparison sample of 219 high school youth was created from the 2011 YRBS data and from the 2013 YRBS data. These are two separate samples, <u>not</u> longitudinal data, since identifiers do not exist. Additionally, YRBS data are gathered every two years (2012 data do not exist).

YRBS does not allow data users to have access to the names of the school included in their data sets. However, the CAS-Carrera program schools are generally lower performing than New York City schools as a whole—creating a challenge for the program schools to match the outcomes in this potentially higher achieving citywide comparison sample. However, it is possible to compare the schools in the program study in a specific borough to YRBS data in those same boroughs.

To illustrate, we have drawn data from the NYC 2011-2012 Department of Education (DOE) School Survey. Each year parents, teachers, and students complete a NYC DOE survey which covers learning conditions at their schools. Table 8 shows the average satisfaction scores for each CAS-Carrera program school and the city average in 2011-2012. As seen below, scores for each program school in almost every domain were lower than the NYC average.

2011-2012	OCS	UAI	BPC	ASE	Citywide average
Academic Expectations	6.4	7.1	7.2	6.6	7.6
Communication	6.3	6.4	6.5	6.0	6.9
Engagement	6.3	6.7	7.1	6.1	7.3
Safety & Respect	6.2	7.2	7.4	6.5	7.4

Table 8: Average satisfaction scores of CAS-Carrera schools

In addition, we have examined data from the NYC DOE 2011-2012 Progress Report for each school. Progress Reports help parents, teachers, principals, and school communities understand schools' strengths and weaknesses. Progress reports grade each school with an A, B, C, D, or F based on student progress (60%), student performance (25%), and school environment (15%). Scores are based on comparing results from one school to a peer group of up to 40 schools with the most similar student population and to all schools citywide. As seen in Table 9, three of the four CAS-Carrera program schools were ranked below the 20th percentile and had an overall score well below the NYC average.

Tuble > Trogress report for each only ourfer school				
2011-2012	2011-2012 Overall Grade	2011-2012 Overall Score	2011-2012 percentile ranking	
OCS	С	41.6	17.4	
UAI	D	31.0	6.9	
BPC	D	31.1	7.2	
ASE	n/a	n/a	n/a	
Citywide average		57.4	50.3	

Table 9: Progress report for each CAS-Carrera school

Note: The grade for ASE is for 2010-11 and the overall scores and percentile ranking for this school are for the high school only since the middle school was being phased out and the NYC DOE did not compute these data for this year.

Given the small number of variables with which to match CAS-Carrera program youth to YRBS youth, and the potential differences between program schools and YRBS schools, using YRBS data as comparison data provides only a context in which to understand program effectiveness.

However, YRBS data have been used in many contexts. According to the National YRBS Q and A website⁸, "state and local agencies and nongovernmental organizations use the YRBS data to set school health and health promotion goals, support modification of school health curricula or other programs, support new legislation and policies that promote health, and seek funding for new initiatives. For example:

- Milwaukee Public Schools (MPS) used YRBS data to support adoption of evidencebased curricula in MPS schools, community schools, after-school programs, and alternative settings for school-aged youth.
- The Montana Office of Public Instruction and its partners used YRBS data for program planning and improvement.
- In Vermont, YRBS data were used to examine the success of statewide tobacco control programs and promote tobacco prevention programs for youth.

⁸ Youth Risk Behavior Surveillance – United States, 2005. Q's and A's for Participating Sites. <u>http://www.emc.cmich.edu/YRBS/Qs%20and%20As.pdf</u>



In Wisconsin, classroom activities designed to teach social norms were developed based on YRBS data."

Procedure used for obtaining the NYC YRBS comparison group

Nine demographic variables (common to both program and YRBS youth) were used in the matching procedure. The treatment variable was whether students received CAS-Carrera programing (coded 1) or completed a YRBS (coded 0). The demographic variables used for selecting the sample were:

- ✓ group (1=CAS-Carrera program, 0=YRBS comparison)
- ✓ gender (1=male, 2=female)
- ✓ grade (9th, 10th, 11th, 12th) ✓ Black (1=yes, 0=not black)
- ✓ Latino (1=yes, 0=not Latino)
- \checkmark White (1=yes, 0=not White)
- \checkmark Asian (1=yes, 0=not Asian)
- ✓ multi-racial (1=yes, 0=not multi-racial)
- \checkmark other race (1=yes, 0=not other race)
- ✓ borough (1=Bronx, 2=Brooklyn, 3=Manhattan)

Propensity scoring without replacement was selected instead of with replacement (both of which use nearest neighbor matching) for two reasons:

- 1) There was a large comparison sample of NYC students completing the YRBS both in 2011 and 2013 (n=7,653 and n=5,150, respectively), and
- 2) We wanted to eliminate possible outliers generated by propensity scoring with replacement. The sample generated with replacement created a weighted comparison sample, one individual in each sample being used 60 or more times thus comprising more than a quarter of the comparison sample (Table 10).

Except for the "borough" variable, complete balance was achieved in the 2011 sample. Note that, while the matching did not reduce the bias as much for the 2013 sample as for the 2011 sample, the overall reduction in bias was 25%, and no statistically significant differences were reported for the control (demographic) variables (Table 11, following page).

Table 10: Matching with replacement

Table 10. Matching with replacement				
Weight of	Frequency	Frequency		
comparisons	2011	2013		
w/				
replacement				
1	3	7		
2 3	3	3		
3	1	1		
4	3	3		
5	1	0		
7	0	2		
8	0	1		
9	2	0		
10	0	1		
11	3	0		
12	0	1		
14	1	1		
15	1	0		
16	0	1		
18	0	2		
21	1	1		
27	1	0		
60	0	1		
62	1			
219 total	21 total	21 total		

Tuble 11: Reduction in blug				
Demographic variables used for selecting sample	% reduction in bias 2011 propensity	% reduction in bias 2013 propensity		
for selecting sample	· · ·			
	matched (n=219)	matched (n=219)		
gender	100% (p=1.000)	100% (p=1.000)		
grade	100% (p=1.000)	95.3% (p=.851)		
black	100% (p=1.000)	94.1% (p=.772)		
latino	100% (p=1.000)	100% (p=1.000)		
white	No whites in sample	No whites in sample		
asian	100% (p=1.000)	100% (p=1.000)		
multiracial	100% (p=1.000)	100% (p=1.000)		
other race	100% (p=1.000)	33.5% (p=.432)		
borough	91.7% (p=.948)	100% (p=1.000)		
Mean Bias	.1% (reduced 31%)	1.5% (reduced 25%)		

There is no common support problem, meaning that 100% of the cases were matched with a propensity score with a difference <.001 and for nearly all (99%), the difference was zero. While matching without replacement is not always recommended, in this instance it is fully supported since it eliminated almost all of the bias.

Table 12 shows the demographics of the NYC program youth and the YRBS comparison youth samples from 2011 and 2013. As seen here, the CAS-Carrera program youth and the YRBS comparison youth samples were extremely well matched on the available demographic variables.

Demographics	2011		2013		
	Program	YRBS	Program	YRBS	
	Youth in	Youth	Youth in	Youth	
	NYC (n=219)	(n=219)	NYC (n=219)	(n=219)	
Gender:					
Male	32%	32%	27%	27%	
Female	68%	68%	73%	73%	
Ethnicity:					
African-American	62%	62%	59%	58%	
Latino	19%	19%	27%	27%	
Caucasian	0%	0%	0%	0%	
Asian	<1%	<1%	<1%	<1%	
Multi-ethnic	11%	11%	11%	11%	
Other	8%	8%	3%	4%	
Grade:					
9 th	41%	41%	1%	1%	
10 th	19%	19%	41%	41%	
11 th	40%	40%	39%	40%	
12 th	0%	0%	19%	18%	
Borough:					
Bronx	40%	40%	40%	40%	
Brooklyn	42%	41%	41%	41%	
Manhattan	18%	19%	19%	19%	

Table 12: Comparing demographics of NYC CAS-Carrera program youth vs.YRBS comparison youth in 2011 and 2013

However, the limited number of variables available for matching prevents knowing that the program youth are well-matched to the YRBS comparison youth, other than on these few variables. Thus, the YRBS data included in this section of the report are intended to serve as contextual data in gauging outcomes among program youth.

Student survey data

Philliber collected baseline student survey data from NYC youth in Fall 2011. The first follow-up data collection occurred in Fall 2012, the second in Fall 2013, and the final data collection occurred in Fall 2014. All data were collected using a single self-report survey (see Appendix A). The survey included questions about demographics, family composition, socio-economic status, health care, educational aspirations and other school-related items, employment, financial literacy, recreational activities, drug use, violence and delinquency, involvement in the juvenile justice system, communication, sexuality knowledge, sexual activity, contraceptive use, and pregnancy. The family life and sexuality education (FLSE) items were developed by Dr. Carrera and senior FLSE staff to track the dimensions of the FLSE curriculum offered in the program. In total there are 30 items (10 true/false items, 10 multiple choice items, and 10 fill-in-the-blank items) measuring knowledge about communication, parental involvement, puberty/human development, sexual and reproductive anatomy, STI/HIV prevention and treatment, social and emotional development, conception/pregnancy/ contraception, sex and gender, and sexual abstinence.

All data were computer-entered at Philliber and subsequently analyzed. Demographic data were presented as frequencies with computed means as appropriate. Outcome data were analyzed using ANOVAs. Regression analyses were performed to determine if program participation was related to outcomes. To predict outcome variables, the independent variables were: program assignment, gender, age, ethnicity, grade, and borough (school site).

Teacher survey data

Philliber surveyed teachers each Spring (2011 through 2013) to assess their perceptions of the program in their schools (see Appendix B). In Spring 2011, an online survey was created using Survey Monkey and emailed to teachers to solicit feedback at the four NYC sites. In Spring 2012 and Spring 2013, this survey was repeated in these same schools. In Spring 2011, 155 out of 243 teachers responded, in Spring 2012, 117 of 170 teachers responded, and in Spring 2013, 127 of 191 teachers responded. Questions included measures of their involvement and knowledge of the program, interaction with program staff, perceptions of student improvement, perceptions about the effectiveness of the components, timeliness of the intervention, and perceptions of program impacts.

Student attendance data (dosage)

Daily attendance data were unavailable for this study. However, dosage can generally be inferred based on length of stay in the program given the in-school program structure. In the NYC sites, 85% of the program youth included in this study had been in the program prior to the

Fall 2011 'baseline' survey.

Validity

The level of evidence in this evaluation is preliminary at best. In the NYC sites, all students entering the schools are deemed CAS-Carrera program youth. Thus, there is no selection bias. Additionally, exact matching was used with NYC YRBS youth to create comparison data because the rapid spread of this program in the NYC schools precluded using a lagged cohort design as originally intended. Such a comparison does provide some context within which to understand outcomes among the program youth in NYC.

Logistics

Philliber staff collected all of the NYC interview data from CAS-Carrera program staff and school administrative staff. Philliber also collected all of the teacher surveys via Survey Monkey.

Over 98% of the student survey data were collected by Philliber staff during yearly scheduled one-week data collections at each site. Philliber staff read the survey items and response choices to all students. Youth were reassured of confidentiality and asked to be honest in their answers. If youth were not present during the one-week scheduled data collections, CAS-Carrera program staff collected survey data at a later time. These program staff had youth complete the surveys in a quiet area with no distractions. These youth were instructed to seal their completed surveys in an envelope and deliver them to the Program Coordinator who then mailed the surveys to Philliber. CAS-Carrera program staff never viewed student data.

Inactivity & attrition

Since this was an intent-to-treat design, Philliber attempted to resurvey every youth who was surveyed at baseline in subsequent data collections. Philliber mailed surveys to inactive youth (those who had left the study schools) and also made follow-up phone calls to remind inactive youth to complete their surveys. All middle school youth received a \$15 cash stipend and high school youth received a \$25 cash stipend for a completed survey. At final follow-up, 21% of the NYC program youth included in this report were inactive (they had left the study schools at some point during the three-year period). These surveyed inactive NYC youth were significantly older and were significantly more likely to have reported living in foster care.

The attrition rate among NYC program youth was 13%. Youth leave the schools due to transferring to a different school or moving to a new neighborhood and either cannot be found or decline to be surveyed. Students also transfer to new schools to receive specialized academic concentrations or sports. These non-surveyed youth who were lost to follow-up, did not differ significantly from those who were surveyed.

Data storage

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All data were computer-entered into SPSS data files with assigned Philliber IDs. Student names were kept separately and were not linked to survey data. All paper data from this study were kept in a locked storage facility. There were no problems with agreements for data access, storage, use, or reporting. There were no changes to Memoranda of Understanding (MOU's).

Data from each annual data collection were stored in separate SPSS files and merged to create one "master file". Each year's data had different variable names to help distinguish one year from the next (i.e. ever had sex1, ever had sex2, ever had sex3, etc).

Upon request, a CDC representative sent Philliber the NYC YRBS data for 2011 and 2013, along with a code book describing all variables contained in each data set. Philliber then created a matched file to use as comparison data.

Data cleaning and missing data

All data went through an extensive cleaning process. All surveys were checked for accuracy to ensure data entry was correct. During data analysis, inconsistent data were removed depending on the variables being measured. For example, if a participant checked "yes" for having sex at baseline but then checked "no" on a subsequent survey, this participant's data were removed from that calculation. If a participant checked "yes" for having sex in the past three months but left the ever had sex question missing, the missing data were filled in. This logic applied throughout the analysis. Philliber imputed all variable values possible. For example, if a student was Latino on the first two surveys, and left ethnicity blank on the last survey, she is probably Latino. If the data on ever had sex and use of contraception were inconsistent, (i.e., denies ever had sex but uses contraception), older surveys were consulted and the use of weight-of-evidence approach was used. Throughout this study, missing data were negligible (less than 5% on any given indicator).

<u>IRB</u>

This study was fully approved by an IRB. There were no changes made to the IRB during the course of this study. Currently the study is closed.

Evaluator role/involvement and budget

There were no changes regarding the role of the evaluator. The senior staff member overseeing this evaluation at Philliber remained consistent for the duration of this study.

Levels of significance

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Throughout this report, asterisks (*) indicate whether or not a difference or change is statistically significant. The "levels of significance" indicate the likelihood that an observed difference or change may be due to chance. Thus, when differences are marked with one asterisk (*), it is an indication that the difference would occur by chance alone less than 5% of the time. Two asterisks (**) denote differences that could have occurred by chance alone less than 1% of the time, and three asterisks (***) mean that only 1 time in 1,000 would a difference this large

occur by chance alone. In other words, these differences are likely to be "real" rather than being statistical artifacts produced by sampling errors.

Implementation

The four NYC sites began program implementation in Fall 2008, but the first survey data were collected in Spring 2009. While the program began in four of the schools six years ago, the grades covered in each year have varied. In 2008, BPC began programming with only 5th graders and UAI began serving 6th graders. At OCS, on the other hand, the program began with 6th and 7th graders in the first year and at ASE, 6th, 7th, and 8th graders received the program in its first year. In each school a new grade level has been added each year as those served move up and new students enter the school. Additionally, as new students enter these schools in any grade receiving the program they are enrolled in the program. This means that grade level may not necessarily indicate program exposure.

Thus, 85% of the program participants in this NYC sample received the CAS-Carrera program prior to Fall 2011. This means that 85% of these youth had been exposed to at least one year of program intervention at baseline (dosage), so that the Fall 2011 survey is not a "clean" baseline.

Another evaluation option would have been to choose a number of schools and to randomly assign the program to half of those schools. This more robust option would have required much larger amounts of funding than were available in Spring, 2011.

It is important to note that the NYC sites serve a much larger number of program youth than are included in this report. For example, in 2012, the NYC sites served more than 1,700 program youth in grades 5 through 12. This report includes only those who were surveyed in Fall 2011 and subsequently followed for three years. Any program participants who were not surveyed in Fall 2011 (those joining after this time period) are not included.

Service Delivery: Was the program delivered as intended? Was each program component offered each program year?

In a typical after-school CAS-Carrera program, the academic component is offered daily (Monday through Friday), and Job Club, FLSE, and Mental Health are offered weekly. The dosage requirement for self-expression and individual lifetime sports is to have at least two exposures per year which are offered as part of weekly scheduled programming, and/or during school breaks and summer. Medical services/referrals are offered as needed. In the in-school model, the academic component is offered daily, and Job Club, Mental Health, and FLSE are offered weekly (Table 13). Among the NYC sites the sports component was delivered during the summer months and self-expression was delivered in either the summer or in the spring. At OCS, the self-expression component did not exist as a separate component but instead was combined with other component activities. At ASE, the program was winding down and largely did not offer programming in 2012-13 or 2013-14 (this school was phasing out the middle school grades).

The CAS-Carrera program provides fidelity management and oversight to the NYC inschool sites. All sites have a Fidelity Manager in addition to content specialists for Mental Health, FLSE, and Job Club, as well as academic support staff. CAS-Carrera

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also provides ongoing performance management through the Carrera Management Information System (CMIS). However, the formalized collection of observation or fidelity data was not included as a part of this study design.

Table 13: Component derivery					
Site ar	nd components	2011-2012	2012-2013	2013-2014	2014-2015
BPC					
	Academic	Daily	Daily	Daily	Daily
	Job Club	Weekly	Weekly	Weekly	Weekly
	FLSE	Weekly	Weekly	Weekly	Weekly
	Mental Health	Weekly	Weekly	Weekly	Weekly
	Self-expression	Summer only	Summer only	Summer only	Summer only
	Lifetime individual sports	Summer only	Summer only	Summer only	Summer only
	Medical services/referrals	As needed	As needed	As needed	As needed
UAI					
-	Academic	Daily	Daily	Daily	Daily
	Job Club	Weekly	Weekly	Weekly	Weekly
	FLSE	Weekly	Weekly	Weekly	Weekly
	Mental Health	Weekly	Weekly	Weekly	Weekly
	Self-expression	Spring only	Spring only	Spring only	Spring only
	Lifetime individual sports	Summer only	Summer only	Summer only	Summer only
	Medical services/referrals	As needed	As needed	As needed	As needed
OCS					
	Academic	Daily	Daily	Daily	Daily
	Job Club	Weekly	Weekly	Weekly	Weekly
	FLSE	Weekly	Weekly	Weekly	Weekly
	Mental Health	Weekly	Weekly	Weekly	Weekly
	Self-expression	Combined w/ other comp.			
	Lifetime individual sports	Summer only	Summer only	Summer only	Summer only
	Medical services/referrals	As needed	As needed	As needed	As needed
ASE					
	Academic	Daily	Not delivered	Not delivered	Program
	Job Club	Weekly	Not delivered	Not delivered	closed
	FLSE	Weekly	Weekly	Weekly	
	Mental Health	Weekly	As needed	As needed	
	Self-expression	Summer only	Not delivered	Not delivered	
	Lifetime individual sports	Summer only	Not delivered	Not delivered	
	Medical services/referrals	As needed	As needed	As needed	

Table 13: Component delivery

In order to integrate CAS-Carrera components into a school, school leadership needs to be willing to set aside classroom time for programming. School leadership may consider various scheduling options to integrate programming including the use of advisory periods, electives, physical education/art class, health class, and study halls. Academic supports can also be scheduled as push-ins/pull-outs and other small group formats.

Interview data suggest that the NYC sites experienced moderate staff turnover during this three-year study. The Program Director position turned over once at UAI. At the other three NYC sites, the Program Director had been in that position for at least five years. Additionally, at UAI the community organizer position turned over twice. At the other three sites, the Community Organizer had been in that position for at least three years. There have been numerous component leader and social worker/mental health specialist turnovers. Staffing changes can affect the continuity of program delivery and may have a negative effect on outcomes.

Program staff interacted with school administrative staff often. In fact, they are often included in school administration meetings. Staff/trainer data were not collected.

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Context: What were the barriers to and facilitators of program delivery? What positive and negative roles did school administrators play? How did the school setting affect program delivery? How did school staff see the program and its contribution to their work?

Highlights from NYC interviews include:

- Very high effectiveness ratings of the CAS-Carrera program from both program and school staff.
- Consistent reports of school wide changes as a result of the program.
- Particular praise for the eye glass program for students.
- Consistent school staff reports of sending non-program students to CAS-Carrera staff for assistance/services.
- Widespread reporting by program staff of having provided program services to non-program students.
- The presence of other programs in these schools, offering at least some of the CAS-Carrera services to both program and non-program students.
- In one school, adoption of the CAS-Carrera family life and sex education curriculum for all students (including the intended comparison youth) in Fall 2013.
- High awareness among non-program students of the program and its services, knowledge about how to obtain those services, and frequent use of them.
- Some irregularity in offering the program's seven components compared to the afterschool version of the program.
- Uneven perceptions by CAS-Carrera program students that they are part of a "special" group receiving program services.
- Program staff beliefs that while the in-school version of the program has some challenges, including bending the program to the school's goals, need for more staff, and transfers of students out of the school, the benefits of being in the school outweigh these challenges since it allows greater contact with the students and better linkages with students' teachers.

Nearly all NYC administrators interviewed reported having a lot of contact with CAS-Carrera staff. Challenges reported by school staff in working with the CAS-Carrera program include: program staff lacking classroom management training, student pull-outs, trying to meet all of the needs of the students quickly (volume), scheduling/logistics, staff turnover, and building new relationships when teachers or CAS-Carrera program staff leave. In fact, about 80% of the BPC middle school teaching staff was new in the 2013 school year. This was problematic for the CAS-Carrera program staff because they needed to build all new relationships with these new BPC staff members. Program staff are largely seen as the "veterans" of the schools.

NYC program staff mentioned challenges around administrative polices; needing to adjust their "way of thinking" to accommodate the school and the Department of Education (DOE). One CAS-Carrera program staff member stated:

We are visitors here. So we have to sway with what the administration says. That bothers me tremendously because we are here to help and they should take

Philliber RESEARCH & EVALUATION advantage of that. We're here to give them a hand and sometimes they slap it away. The administration is so focused on ELA, math, and state test scores that they neglect the other parts that are so essential for the students.

Still, administrators and CAS-Carrera program staff feel the program makes big positive changes for students. Specifically, they mentioned the impact of the social workers, increased parental involvement, eye glasses, and dental/medical care. Administrators also say they have noticed school-wide changes as a result of the program such as increased teacher support from CAS-Carrera staff members, an increase in college interest among youth, greater communication between students and program staff, and a decrease in disciplinary actions and suspensions. One administrator commented:

The students that we educate here are some of the city's neediest students. These are students, who in other schools may not have been successful at staying in school. And the Carrera program provides a whole range of services that we as a public charter school can't provide. This year they're integrally part of the college preparation process. They've taken the lead with our guidance department on making sure that all of our students are getting the information that they need and have the applications filled out that they need to fill out in order to go to the colleges that they'd like to go to. A big part of what Carrera does is they take away impediments to learning. Every year they provide glasses to the students. And it may seem like a small thing, but for family's struggling to survive, eyeglasses and constantly taking their kids to the doctor to get their prescriptions updated becomes a costly thing and may not happen every year. A very big part of what they do is removing these types of roadblocks.

As noted earlier, these data suggest high satisfaction with the NYC program but clear contamination of the comparison group of students since the program's services had spread rapidly throughout the schools. When asked if comparison youth were sent to CAS-Carrera staff for services, one administrator said:

Oh, I did it all the time. We had kids who were non-program kids (comparison kids) who were dealing with sexuality issues or they were sexuality active or whatever and we had a group of experts on staff (CAS-Carrera staff) where you could always bring the students to. We availed ourselves of that often.

Teacher Perceptions of the CAS-Carrera program

In Spring 2011, 155 surveys were received from NYC teachers, in 2012, 117 surveys were received, and in 2013, 127 surveys were received.

Who are the 2013 participating teachers in NYC?

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- 72% were female, 48% were Caucasian, 20% were African-American, and 15% were Latino. These teachers taught in the 5th through 12th grades.
- 54% had been teaching for six years or less and 61% had been at their current schools for three years or less; one-quarter were in their first year.

• 92% had at least some knowledge of the CAS-Carrera program; 86% were involved with the program.

What did the 2013 teachers have to say about the CAS-Carrera program?

- Teachers reported interacting with CAS-Carrera staff on issues somewhat often.
- Teachers felt students had made some improvement regarding sexual awareness, sexual knowledge, general well-being, self-confidence, academics and/or behavior.
- Teachers rated the effectiveness of the CAS-Carrera components favorably.
- Teachers rated the timeliness of interventions and/or processes at their schools to be a bit better than before the CAS-Carrera program existed in their schools.
- 79% felt the CAS-Carrera program had some (38%) or a great deal (41%) of positive impact on their students.
- 55% had observed improved student knowledge about puberty/development as a result of the CAS-Carrera program.

What about changes over time among the teachers who had completed more than one survey?

- Perceived positive impact of the CAS-Carrera program remained high.
- Over half maintained they had observed improved student knowledge about puberty/ development as a result of the CAS-Carrera program.
- Interaction with CAS-Carrera staff had increased slightly.
- Perceptions of student improvement had increased slightly.
- Effectiveness ratings of the CAS-Carrera components remained favorable.
- Teachers rated the timeliness of interventions and/or processes at their schools less favorably in 2013 compared to prior years.

These interview and survey data also suggest that the in-school model wasn't delivered with as much regularity as a typical after-school CAS-Carrera program. The in-school programs must adapt to the requirements and schedules of the schools and in particular to the demands of school administrations. However, program staff believe that while the in-school version of the program has some challenges, the benefits of being in the school outweigh these challenges since it allows for greater contact with the students and better linkages with students' teachers. School staff perceive the program has had a positive impact on their students.

Program Outcomes

The analysis of NYC student survey data began with a descriptive, longitudinal examination of outcomes among those students who completed a survey at all three time periods (removing ASE from the analysis completely) to determine if interval in the program affected outcomes. Results showed three outcomes significantly improved over time: physical fighting during the past 12 months decreased, family life and sexuality education knowledge increased, and financial literacy increased (Table 14).

	2011	2012	2013
Mid-term Program Outcomes:			
In physical fight during past 12 months (% yes)***:	25%	18%	12%
Short-term Program Outcomes:			
FLSE scores (% correct)***:	71%	73%	81%
Financial literacy (% correct)***:	63%	67%	74%

Table 14: Significant improvements among the 219 NYC youth who were
surveyed in 2011, 2012, and 2013

Difference is statistically significant when ***p<.001.

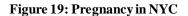
The analysis also compared selected outcomes among program students and the matched YRBS samples from 2011 and 2013. Totals for NYC in Fall 2013 do not include the ASE site since they had aged out and totals for 2011 in NYC do not include BPC on items measured by the YRBS since BPC youth were 8th graders at the time. Results are shown for only those measures which were common to both program and comparison surveys. Additionally, 21% of the program youth were inactive at the time of the Fall 2013 survey (not including ASE where nearly all were inactive in 2013 due to high school graduation). These surveyed students who had transferred schools or moved were significantly older (mean = 14.4 yrs. vs. 14.8 yrs.) and were significantly more likely to report being in foster care (0% vs. 4%). The attrition rate among program youth was 13%, meaning they were not surveyed at follow-up. Appendix C provides detailed information regarding the specific statistical tests used in NYC.

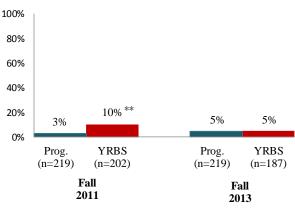
Long Term Program Outcomes

Pregnancy

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Pregnancy rates were significantly lower among program youth than YRBS comparison youth in 2011 but this was not the case in 2013 (Figure 19 and Table 15).





Difference is statistically significant at ** p<.01

	Fall 2011		Fall 2013	
	(n)	Prog. Youth %	(n)	Prog. Youth %
Total NYC males	71	1%	60	3%
Total NYC females	148	5%	159	6%
Total NYC (all program youth)	219	3%	219	5%

Table 15: Been pregnant/caused a pregnancy in NYC by gender

Mid-term Program Outcomes

Sexual Behavior and Contraceptive Use

In 2013, program youth in NYC were slightly less likely than YRBS comparison youth to report ever having sexual intercourse (Figure 20). Additionally, program youth who were sexually active were significantly more likely than YRBS comparison youth to report condom use at last intercourse in both years (Figure 21).

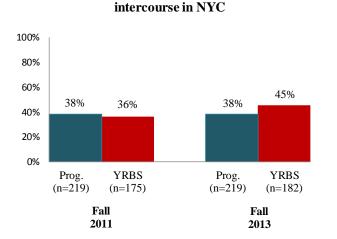
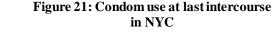
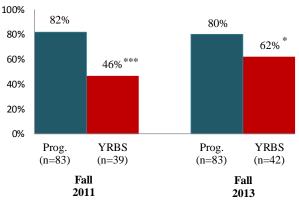


Figure 20: Percent who have had sexual

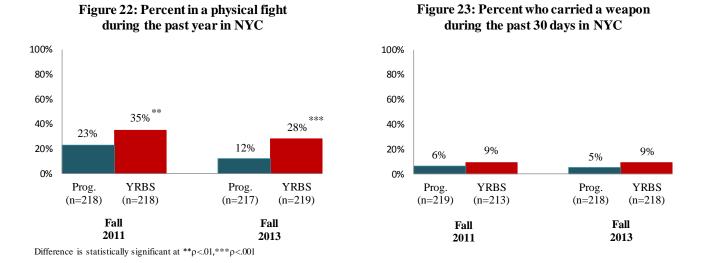




Difference is statistically significant at *p<.05, ***p<.001

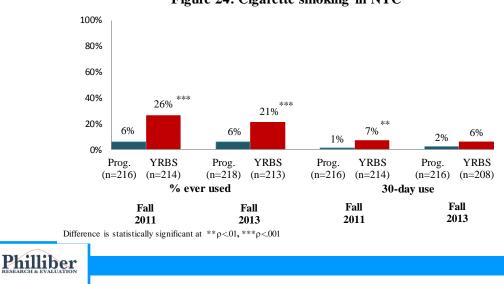
Violence and Delinquency

In 2011 and 2013, NYC program youth were significantly less likely than YRBS comparison youth to report being in a physical fight during the past year (Figure 22). Additionally, in 2011 and 2013, NYC program youth were less likely than YRBS comparison youth to report carrying a weapon during the past 30 days, although not significantly so (Figure 23).



Drugs and Alcohol

In 2011, program students had significantly lower rates of cigarette use (ever and 30-day use) than YRBS comparison youth (Figure 24). In 2013, this difference exists only on the "ever used" measure.





In 2011, program students had significantly lower rates of alcohol use during the past 30 days than YRBS comparison youth (Figure 25). In 2013, the 30-day alcohol use rates were lower among program youth but not significantly so.

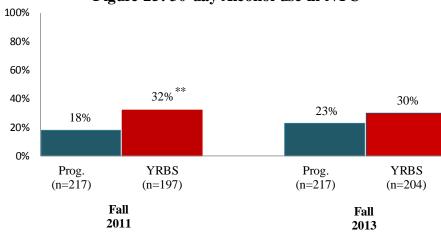
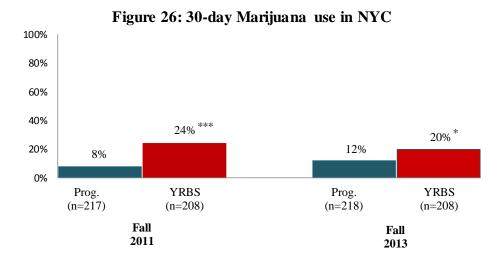


Figure 25: 30-day Alcohol use in NYC

Program students had significantly lower rates of marijuana use than YRBS youth during the past 30 days prior to survey in 2011 and in 2013 (Figure 26).



Difference is statistically significant at * ρ <.05, *** ρ <.001

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Difference is statistically significant at ** $\rho{<}.01$

Regression Analysis: NYC

A linear regression analysis was conducted to determine whether and to what degree being in the CAS-Carrera program in NYC affected each of the outcomes among the 2011 and 2013 samples. Whether the student was in the CAS-Carrera or YRBS comparison group, gender, grade, borough, and ethnicity were included in each equation (demographics common to both program and YRBS samples). Specifically, dependent variables consisted of the outcome measures and the independent variables were constructed as follows:

- ✓ Participation (1=program group, 0=YRBS comparison group);
- ✓ Gender: female (1=yes, 0=else);
- \checkmark Grade (9th, 10th, 11th, 12th);

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- ✓ Borough: (Bronx=1, 0=else), (Brooklyn=1, 0=else);
- ✓ Ethnicity: African-American (1=yes, 0=else), Latino (1=yes, 0=else).

Table 16 summarizes the effects that being in the program had on the outcome variables (positive or negative, the strength, and whether the effect was significant). Results showed among the 2011 sample that program participation had a positive, independent, and significant impact on seven of the nine outcomes common to both program and YRBS youth. Of particular interest are condom use at last intercourse and pregnancy. A CAS-Carrera program participant is 33% more likely to report using a condom at last intercourse than a YRBS comparison student and a CAS-Carrera participant is nearly 7% less likely to report having been pregnant/caused a pregnancy. Other significant differences include cigarette smoking (ever and 30-day use), alcohol use in the past 30 days, marijuana use in the past 30 days, and physical fighting during the past 12 months. Each of these outcomes favored those in the program.

Results showed among the 2013 sample that program participation had a positive, independent, and significant impact on four of the nine outcomes. As seen below, a CAS-Carrera participant is 18% more likely than a YRBS comparison student to report using a condom at last intercourse. Other notable outcomes include ever smoking cigarettes, marijuana use in the past 30 days, and physical fighting during the past 12 months.

Dependent variables	Percentage difference in outcome between program and comparison students, net of gender, grade, borough, and ethnicity		
	2011 Sample	2013 Sample	
Long-term Program Outcomes:			
Ever been pregnant/caused a pregnancy (1=yes, 0=no):	067**	.002	
Mid-term Program Outcomes:			
Ever had sexual intercourse (1=yes, 0=no):	.010	069	
Condom use at last intercourse (1=yes, 0=no):	.334***	.182*	
In physical fight during past 12 months (1=yes, 0=no):	125**	159***	
Carried a weapon during past 30 days (1=yes, 0=no):	031	046	
Ever smoked cigarettes (1=yes, 0=no):	203***	146***	
Smoked cigarettes in the past 30 days (1=yes, 0=no):	060**	036	
Used alcohol in the past 30 days (1=yes, 0=no):	135**	075	

Table 16: Impact of program participation on outcomes among 2011 & 2013 NYC sample

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Conclusion

In Tulsa, 150 program youth and 153 comparison youth were surveyed over three program years. Except on age where there was a two-month average difference, these groups were well matched. Relative to comparison youth, Tulsa program youth were more likely to report having bank accounts, eye exams, and knowledge regarding financial literacy and family life and sexuality. These positive findings are centered on services directly delivered to program youth. Perhaps the younger youth in Tulsa who have had far less program exposure than the NYC youth, may experience additional outcomes as they progress in the program. A promising finding is that 9th grade Tulsa program youth were 9% less likely to report having had sex (p<.067) and 3% less likely to report having ever been pregnant/caused a pregnancy (p<.052), controlling for the effects of demographic variables.

In NYC, a descriptive longitudinal analysis found that program students significantly decreased fighting over three years of program exposure and significantly increased their sexuality knowledge and their financial literacy. The analysis also compared 219 program high school youth to 219 YRBS comparison youth. These groups were well-matched on the available demographic variables. These program youth performed better than YRBS comparison youth on both long-term and mid-term outcomes related to pregnancy, contraception, drug and alcohol use, violence and delinquency.

It is important to note that in this 'intent-to-treat' model, evaluators made an effort each year to survey every student in the CAS-Carrera program group who completed a 'baseline' survey. At last follow-up, 21% of the NYC program participants and 13% of the Tulsa program youth no longer attended the study schools (they had moved and/or transferred to other neighboring schools). These youth were surveyed and included in this report. Thus, this may have had an impact on results.

There are many factors in an in-school setting that can affect these findings. While the original after-school versions of this program were located within community agencies, those agencies did not govern program offerings, hours, or strategies in the ways that schools do. After-school programs do not have bells signaling strict time limits or testing days when program cannot be offered at all. Children in the integrated school model come to be in the program by virtue of their grade level or administrator choice and do not choose membership, as they did in the after-school settings. Additionally, school choice can enable students to move between schools, thereby affecting program dosage.

Additionally, there is a different student-to-facilitator ratio in the in-school model than in the typical after-school CAS-Carrera program. A typical after-school program works with no more than 60 youth at a time (based on current CAS-Carrera after-school sites). The in-school programs are delivering the program to hundreds of youth per school and the number of CAS-Carrera staff has not increased proportionately. Thus, the typical one-on-one relationships that exist in an after-school program are more challenging in the in-school model. However, CAS-

Carrera staff report that an overall staffing plan is developed in conjunction

with school leadership and is guided by multiple factors, including the number of incoming students and related classroom sizes. While the kind of staff (component/administrative) is designated by the program model, the number of staff and specific school based considerations are unique to each school. Economies of scale are achieved with larger grades, and staffing is scaled accordingly. As the number of program participants increases each year in a typical scenario, it becomes mandatory to add new staff since the service needs are expanded. Efforts are made to maximize schedules for component leaders/teachers and counselors.

In terms of program staff, CAS-Carrera has job descriptions which outline the roles of staff within the context of school-based delivery. The core content expertise that is required of program staff, whether in-school or in the after-school environment, does not change. However there is an expectation that staff has experience with schools and depending on roles, has demonstrated capacity on key school considerations like classroom management. Some schools may require specific licenses or credentials to lead classroom work. If there are specific requirements as determined by the school, these designations would become a part of CAS-Carrera staffing requirements. Additionally, if there are specific needs articulated by the school relating to the student population served, these considerations are included in staffing decisions. For example, if a school serves a large number of students with IEPs, the CAS-Carrera education component will be staffed with professionals who have specific expertise in this arena.

The advantages of the in-school model include the ability to reach more young people and thus lower program costs, and the ability to reach young people who might not participate in an after-school program but who nevertheless need these services. Qualitative research suggests that the in-school model is perceived to have a positive effect on the climate of these schools and both teachers and administrators praise its success in connecting young people quickly and efficiently to needed services.

Comparing these findings to those of the original RCT is not recommended. The original RCT study was based on the original after-school design that included 484 youth after three years. This current study is an adaptation of the original program design and its evaluation is preliminary. The current evaluation involves fewer youth in a non-RCT design. In order to compare findings, a thorough RCT design would need to be employed for the in-school model where entire schools are randomly assigned to either the treatment or control condition, thus barring any possibility of contamination.

Thus, the methodological challenges of these evaluations lead us to label these findings as encouraging. Further study using a school level randomized control trial (RCT) will be needed to produce more compelling data on the outcomes of the in-school CAS-Carrera program.

While all students can benefit from CAS-Carrera's holistic approach, the program seeks to serve those young people living in poverty and experiencing disparities. Below are characteristics of youth who are typically served by CAS-Carrera:

- live in poor/near poor family circumstances (standard definition),
- come from single parent households,
- receive modest, little, or no after-school home supervision,

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- have had very little cultural experiences or advantages,
- have not received comprehensive regular medical, dental, and vision services, and
- frequently reside in environments with high teen pregnancy rates, and where legal justice and anti-social behaviors are common (drug use, drug sales, violence, gangs, use of weapons).

CAS-Carrera has a codified set of considerations that are used in exploring the feasibility of a school partnership. Some of these assessment criteria include:

- philosophical alignment/commitment to programming;
 - school location;
 - leadership/management considerations;
 - school operations/infrastructure;
 - dedicated space for the CAS-Carrera staff;
 - performance management;
 - financial viability;
 - school performance (local/state standards);
 - reputation of the school in the community;
 - an understanding that CAS-Carrera will be a part of school leadership teams;
 - capacity to deliver all aspects/components of CAS-Carrera; and
 - an understanding that long term sustainability requires school resources.

If schools/communities would like to implement a teen pregnancy prevention program such as the CAS-Carrera program but are unsure about which program to choose, we recommend consulting the Office of Adolescent Health evidence-based list of 37 programs deemed effective in reducing teen pregnancy.⁹ This list will provide details about each program with respect to length, intensity, and previous research.

⁹ <u>http://tppevidencereview.aspe.hhs.gov/EvidencePrograms.aspx</u>



Appendix A: Youth Survey

Today's date:	//vear	ID:
1. Birth date:		
2. Gender: male female	 3. Ethnicity: (please check all that ap) African American/Black Caribbean Latino/Latina Caucasian Asian other (specify:	4. What grade are you in? 5 th 6 th 7 th 8 th 9 th 10 th 11 th 12 th
 5. Please check all the mother father grandparent(s) step parent guardian 	e people you live with now. your child(ren) (how many? brother(s) (how many? sister(s) (how many? foster parent(s) other (who?	_)
5a. Are you in foster	care?⇔	
yes no I don't know	nily receive public assistance (food stamps, w ree or reduced lunch at school?	velfare, other)?
<u>Mother</u> ☐ less than l ☐ high scho ☐ some coll	raduate or more College graduate or n	
9. Do you live with an yes no	n adult who is working?	
☐ I don't have anypla ☐ private doctor's of ☐ clinic at a hospital ☐ clinic <u>not</u> at a hosp ☐ school-based healt	fice	
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11.	Yes	No
In the past year have you had a regular checkup and/or physical? ⇒		
In the past year have you had a dental exam? ⇒		
In the past year did you have a vision screening at your school? ⇒		

12. Do you have a bank account?

yes ⇒ About how much money is in your account today? \$____ 🗌 no

13. Which of the following is a "need" rather than a	14. What is a budget?
"want"?	A plan for how to spend the money you receive
A designer sweater	A cash register
Money to pay for a meal	The interest you pay on a loan
A new video iPod	A document required to get a mortgage or a loan
A new CD by your favorite singer	I don't know
I don't know	
15. Buying stock means that you are:	16. Which of the following is NOT true about credit
Buying part of a company	cards?
Lending money to a company	Interest rates vary widely
Making a real-estate investment with a company	If you pay the minimum required each month, you
Paying interest to a company	won't pay any interest
I don't know	Many require an annual fee
	Some credit cards give you rewards
	I don't know

17. How often do you turn in your homework on time?

- I always turn it in on time
- Usually
- Sometimes
- I hardly ever turn it in on time

18. Do you think you will go to college?

- yes—right after high school yes—but later—not right after high school

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definitely not

19. Did you have to attend summer school last summer due to poor grades or missing too much school during the regular school year?

yes no

20. Have you ever had a paid job or paid internship?

yes no

21. Have you ever	Yes	No
Smoked cigarettes? ⇒		
Had at least one drink of alcohol? ⇒		
Used marijuana? ⇒		

22. During the past 30 days, have you	Yes	No
Smoked cigarettes? ⇒		
Had at least one drink of alcohol? ⇒		

Used marijuana? ⇒		
 23. Have you carried a weapon during the past 30 days? yes no 		
24. Have you been in a physical fight during the past 12 months? yes no		
 25. Have you been arrested during the past 6 months? yes no 		
 26. Have you ever had sexual intercourse? yes no 		
 27. How old were you when you had sexual intercourse for the first time? I have never had sexual intercourse 11 years old or younger 12 years old 13 years old 14 years old 15 years old 16 years old 17 years old or older 		
 28. The <u>last time</u> you had sexual intercourse, did you and your partner use I have never had sexual intercourse yes no 	e a condom?	
 29. The last time you had sexual intercourse, what ONE method did you a pregnancy? (Please check only one answer). I have never had sexual intercourse no method was used to prevent pregnancy birth control pills condoms Depo-Provera (injectable birth control) withdrawal some other method not sure 	and your partı	ner use to <u>prevent</u>
30. Thinking back over all the times you have had sexual intercourse in th you and your partner(s) used or done something to keep from getting a sex keep a pregnancy from happening?		

I have never had sexual intercourse

never
some of the time
about half of the time
most of the time
every time

30a. Have you ever been to a doctor or to a clinic like Planned Parenthood to get condoms/birth control, to have a pelvic exam or to get a checkup for sexually transmitted infections?



🗌 no

31. For femal	es only:			
Have you eve	r been pregnant?			
	have never had sexual intercourse			
l no				
∐ yes ⇔	How many times?			
	How many babies have you given			
	Have you been pregnant in the pas	t year? 与	yes	no
32. For males	only.			
	r gotten someone pregnant?			
	have never had sexual intercourse			
	w for sure I haven't gotten someone pr	egnant		
I don't kno		5		
yes—I kno	ow for sure I have gotten someone preg	gnant♥		
	How many times have you gotten			
	How many biological children do		_	_
	Have you gotten someone pregnan	t in the past year?	⇒ ∐ye	s no
22 W/L+-L -		oole oll 4h - 4 1 \		
	rts do you currently play? (please ch	eck all that apply)		
swimming golf	☐ martial arts ☐ karate			
tennis	other (specify:)		
=	tion this past year	/		
L no participa				
34. Do you pla	y any of these sports on your own tir	ne?		
yes				
no				
	vities do you currently participate in	i? (please check all	that apply)	
art nusic	drama			
	☐ rap ☐ drumming			
writing/poet				
mask makin)		
photography		/		
36. Do you do	any of these activities on your own ti	me?		
U yes				
no				
27 .			• .	0
	volved in any clubs or groups at scho	ool, church, or in th	ne community	:
\square no	please tell us which ones:			
yes n yes ,	prease ten us which ones			
38. Have you e	ver attended any sexuality education	n (either in a schoo	l class or in so	me other program you
	ling education about HIV/AIDS and			
pregnancies?	-	-	× ×	-
no				
	please tell us where, the name of the			
Р	lace where you got the education	Did the class ha	ve a name?	What grade were you in?

Philliber RESEARCH & EVALUATION 38a. Have you ever attended any education on cigarette use, drug use, or alcohol use (either in a school class or in some other program you were in)?

no

yes...if yes, please tell us where, the name of the class, and when:

Place where you got the education	Did the class have a name?	What grade were you in?

Here are some questions about family life and sexuality education to which you may or may not know the answers. Just mark (X) "don't know" if you are unsure -- don't guess. Be sure to mark (X) only one answer.

39. Ovulation usually happens two weeks before a woman's menstrual period.

True
False
Don't know

40. Pregnancy can happen anytime a woman has unprotected vaginal intercourse with a man.

True		
False		
Don't kno	W	7

41. Puberty always starts at the same age for boys and girls.

True
False
Don't know

42. Sexuality is more than just sexual intercourse; it includes many different parts of what makes you a human being.

True
False
Don't know

43. "Sex" and "Gender" are two words for the same thing.

True
False
Don't know

44. Sexual orientation refers to a person's romantic attraction to someone of the same and/or different sex.

True
False
Don't know

45. Assertiveness means communicating your needs or feelings in a way that hurts other people.

True
False
Don't know

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46. Teenagers in romantic relationships can only express love by having sexual intercourse.

Irue
False
Don't know

47. One reason to choose sexual abstinence is to live by your personal values.

True
False
Don't know

48. A person can choose sexual abstinence even if he or she has already had intercourse.

- ☐ True ☐ False
- Don't know

Read the following questions and mark (X) the answer that you think is the best response. Answer them to the best of your ability and do not guess. If you do not know the answer you should choose "Don't know." Be sure to mark (X) only one answer.

49. Where is a man's sperm produced?

- In his urethra
- In his testicles
- In his foreskin
- Don't know

50. What do contraceptives prevent?

- HIV/AIDS
- Peer pressure
- Pregnancy
- Don't know

51. What can a young man do when he starts producing sperm?

- Reproduce by getting a woman pregnant
- Communicate more clearly
- Urinate
- Don't know

52. What causes emotional changes during puberty for both boys and girls?

- Hormones
- Sperm

🗌 Ova

Don't know

53. What does "Homophobia" mean?

- Being open-minded
- Discriminating against a person because he or she is homosexual
- Deciding not to have sexual intercourse
- Don't know

54. If a couple decides to have sexual intercourse, what can they do to prevent most sexually transmitted infections?

- Use the birth control pill regularly
- Use a condom every time they have sexual intercourse
- Use spermicidal gel most of the time
- Don't know

55. What are two ways that HIV is spread?

- Mosquito bites and drinking from water fountains
- Donating blood and kissing
 - Sexual intercourse and sharing drug needles

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56. Which sexually transmitted infection has a cure?

Chlamydia
HIV

Herpes

Don't know

57. Who are the best people to help you make difficult, personal decisions?

Friends you don't know very well

- A parent, another family member, religious leader, or teacher
- Strangers who you will never have to see again
- Don't know

58. How should people choose the best method of contraception for themselves?

- Based on the color of the packaging
- Based on what their friends recommend
- Based on the advantages and disadvantages of the method
- Don't know

Each of the following sentences is missing a word or phrase. Mark (X) the best answer you think should fill in
the blank to complete the sentence. Answer them to the best of your ability and do not guess. If you do not
know the answer you should choose "Don't know."
Be sure to mark (X) only one answer.

59. ____

____ can prevent pregnancy.

- Antibiotics Contraception
- Menstruation Don't know

60. A young woman's ability to reproduce starts when she begins to .

- Abstain Communicate
- Menstruate
- Don't know

61. ____

_ are attitudes, beliefs, and ideas that help us make important decisions.

- Social changes
- Emotional changes
 Personal values
 Don't know

62.

is the only 100% guaranteed way to prevent pregnancy and sexually transmitted

infections.

- Sexual abstinence Drinking alcohol Dating
- Don't know

63. Sexually transmitted infections can be _______ even if the person does not have signs of infection.

Posted or Transmit	ted
	Seen 🗌
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Don't	know
-------	------

64. Teasing a person for being a virgin is an example of ______.

- Helping
- Peer pressure
- Being a good friend
- Don't know

65. People usually make healthier decisions when they feel ______ about themselves.

- Nervous
- Embarrassed Good
- \Box Don't know

66.

_____ are the ways society expects boys and girls to act.

- Sexual orientation
- The Five Ways to Be
- Gender roles
- Don't know

67. To make a decision you should think about all of the long-term and short-term ______.

Opinions
Consequences
Feelings
Don't know

68.

____ means making the choice not to do something that could have bad consequences.

- Abstinence Dating
- Negotiation
- Don't know

Thank you!

Appendix B: Teacher Survey

Today's date:///				
1. Gender: 2. Ethnicity: (please check male African American/Black female Latino/Latina Caucasian Asian other (specify:)	all that apply) 3. What grade(s) do you currently teach? (please check all that apply) 5^{th} 9^{th} 6^{th} 10^{th} 7^{th} 11^{th} 8^{th} 12^{th}			
 4. How long have you been a teacher? This is my first year One to three years Four to six years 	ten years h ten years			
 5. In which school are you currently working? Bronx Preparatory Charter Urban Assembly for Math and Science for Young Women Opportunity Charter Academy for Scholarship and Entrepreneurship Union Public School 	 6. How long have you been a teacher at this school? This is my first year One to three years Four to six years Seven to ten years More than ten years 			
 7. How much do you know about the CAS-Carrera program? A great deal Some Not very much I know nothing about the program 	 8. How involved are you with the CAS-Carrera program? Very involved Somewhat involved Not very involved I have no involvement with the program 			
8a. If you have no involvement with the CAS-Carrera program, what are your impressions about this program? I have a very favorable impression of the program I have a somewhat favorable impression of the program I have a somewhat negative impression of the program I have a very negative impression of the program 				
9. What percentage of your time do you spend on classroom instruction?% non-disciplinary student needs?% student behavioral/disciplinary issues?%				
students? No YesHow? I can now spend a lot more I can now spend a little more				
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11. How often have you done the following over the past year?

	Very often	Often	Not very often	Never
Worked in collaboration/conferred with Carrera social workers regarding approaches to managing student behavior.				
Made a referral to Carrera staff regarding a specific student medical or dental issue.				
Made a referral to a Carrera social worker regarding a specific classroom issue and/or crisis situation.				
Referred a student/family to Carrera social workers.				
Collaborated with Carrera education staff for additional assistance/advocacy.				
Made a referral to the Carrera family life and sexuality instructor to address student needs.				

12. Over the past year how much improvement have you seen in the students you teach regarding their...

	A great deal	Some	Not very much	None	I don't know
Behavior					
General health/well-being					
Academics					
Sexual awareness					
Sexual knowledge					
Self-confidence					

13. For the CAS-Carrera program components for which you are familiar, please indicate how helpful you believe each is to the students you teach.

	Very helpful	Helpful	Not very helpful	Not helpful at all	I don't have enough information to know
Weekly, in-class Power Group sessions (mental health classes) led by Carrera social workers.					
Individual social work services with young people.					
Weekly exposure to Job Club where young people earn stipends and open bank accounts.					
Weekly family life and sexuality education.					
Self expression.					
Lifetime individual sports.					
Comprehensive, no cost medical and dental services.					
Additional education supports including remediation, homework help, and enrichment.					

14. Compared to before the CAS-Carrera program existed in your school, how would you rate the timeliness of the following at your school? Would you say it's better, worse, or the same as before the program existed in your school?

Timeliness of	Better	About the same	Worse	I don't have enough information to know
Interventions with young people who are experiencing mental health issues.				

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Interventions with young people who are experiencing medical/dental issues.			
Interventions with young people who are experiencing behavioral issues.			
Academic interventions and support.			
A systematic referral process for students.			
Student understanding of puberty and other developmental changes.			

15. Overall, how much positive impact would you say the CAS-Carrera program is having on the students you teach?

A great deal of positive impact

Some positive impact

- A little positive impact
- No positive impact at all
- I don't know

16. Has your way of teaching been influenced by CAS-Carrera youth development approaches/ holistic philosophy?

I don't know what that philosophy is

No Yes...in what way?

17. Has the CAS-Carrera program changed the dynamics of your classroom in any way?

No	

Yes...in what way?

18. As a result of the CAS-Carrera program, have you observed improved student knowledge about puberty/development?

I don't know
No
Yes

19. Has the CAS-Carrera program had any negative effects on your job?

🗌 No

Yes...Please explain:

20. Has the CAS-Carrera program had any negative affects on the students you teach?

No No

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Yes...Please explain:

21. Can you suggest any improvements in the way the CAS-Carrera program is being implemented in your school, the staff running the program, or the way the program is managed?

22. Is there anything else you would like to tell us about the CAS-Carrera program?

Thank You!!

Appendix C: Statistical Tests in Tulsa

The following tables show details regarding the statistical tests used in Tulsa for all longterm, mid-term, short-term outcomes, and program service objectives. The tables provide the reader with the percentages on these variables by grade for program and comparison youth). Tables showing regression results show effect sizes and significance levels for each independent variable by grade.

Long-term Program Outcomes

Pregnancy

Outcome (ANOVA)	Program		Comparison		A.C	F value	Sig.
Outcome (ANOVA)	N 150	%	Ν	%	ai	F value	Sig.
Ever been pregnant/caused a pregnancy (7th grade)	150	0%	153	0%			
Ever been pregnant/caused a pregnancy (8 th grade)	150	0%	153	2%	302	4.00	.046
Ever been pregnant/caused a pregnancy (9 th grade)	150	0%	153	3%	302	5.034	.026

Mid-term Program Outcomes

Sexual Behavior and Contraception

Outcome (ANOVA)	Pro	gram	Com	parison	df	F value	S!~
Outcome (ANOVA)	Ν	%	Ν	%	u	r value	Sig.
Ever had sex (7 th grade)	150	4%	152	5%	301	.067	.796
Ever had sex (8 th grade)	150	14%	152	18%	301	1.082	.299
Ever had sex (9 th grade)	150	18%	153	29%	302	5.508	.020
Condom use at last intercourse (7 th grade)	6	67%	7	57%	12	.106	.751
Condom use at last intercourse (8 th grade)	21	76%	28	71%	48	.134	.716
Condom use at last intercourse (9 th grade)	27	63%	45	62%	71	.004	.951
Use of condom & non-coital method at last intercourse (7 th grade)	6	17%	7	0%	12	1.185	.300
Use of condom & non-coital method at last intercourse (8 th grade)	21	0%	28	4%	48	.746	.392
Use of condom & non-coital method at last intercourse (9th grade)	27	4%	45	7%	72	.276	.601
Outcome (ANOVA)	Pro	gram	Comparison		df	F value	St.
Outcome (ANOVA)	Ν	Score	Ν	Score	a	r value	Sig.
Birth control use over past 6 months (7 th graders)	6	2.67	7	1.57	12	.946	.352
Birth control use over past 6 months (8 th graders)	21	2.67	27	2.19	47	1.026	.316
Birth control use over past 6 months (9th graders)	27	2.78	45	2.38	71	1.031	.313

Violence and Delinquency

Outcome (ANOVA)	Pro	gram	Com	parison	df	F value	St.~
Outcome (ANOVA)	Ν	%	Ν	%	a	r value	Sig.
Physical fighting in past year (7 th grade)	150	29%	152	26%	301	.208	.649
Physical fighting in past year (8 th grade)	150	25%	153	30%	302	.843	.359
Physical fighting in past year (9 th grade)	150	22%	153	23%	302	.033	.856
Carried a weapon during the past 30 days (7 th grade)	150	11%	152	8%	301	1.025	.312
Carried a weapon during the past 30 days (8 th grade)	150	8%	152	16%	301	5.062	.025
Carried a weapon during the past 30 days (9 th grade)	150	9%	153	16%	302	3.499	.062
Arrested in past 6 months (7 th grade)	150	1%	152	1%	301	.348	.556
Arrested in past 6 months (8 th grade)	149	2%	153	4%	301	.947	.331
Arrested in past 6 months (9 th grade)	149	2%	153	1%	301	.230	.632

Drugs and Alcohol

	Pro	gram	Com	oarison	16	T	0' -
Outcome (ANOVA)	Ν	%	Ν	%	df	F value	Sig.
Ever smoked cigarettes (7 th grade)	149	15%	152	9%	300	2.834	.093
Ever smoked cigarettes (8 th grade)	150	21%	152	19%	301	.119	.731
Ever smoked cigarettes (9 th grade)	150	23%	150	27%	299	.632	.427
Smoked in past 30 days (7 th grade)	149	2%	152	1%	300	1.051	.306
Smoked in past 30 days (8 th grade)	150	3%	152	5%	301	.680	.410
Smoked in past 30 days (9 th grade)	150	5%	146	8%	295	1.552	.214
Ever used alcohol (7 th grade)	149	28%	152	26%	300	.132	.716
Ever used alcohol (8 th grade)	150	43%	152	52%	301	2.629	.106
Ever used alcohol (9 th grade)	150	53%	150	59%	299	1.350	.246
Used alcohol in past 30 days (7 th grade)	149	8%	152	4%	300	2.258	.134
Used alcohol in past 30 days (8 th grade)	150	8%	152	15%	301	3.769	.053
Used alcohol in past 30 days (9 th grade)	150	13%	149	16%	297	.489	.485
Ever used marijuana (7 th grade)	150	9%	152	6%	301	1.246	.265
Ever used marijuana (8 th grade)	150	25%	152	20%	301	1.041	.308
Ever used marijuana (9 th grade)	150	35%	153	31%	302	.726	.395
Used marijuana in past 30 days (7 th grade)	150	3%	152	4%	301	.385	.536
Used marijuana in past 30 days (8 th grade)	149	5%	153	14%	301	6.156	.014
Used marijuana in past 30 days (9th grade)	150	17%	151	18%	300	.077	.781

Academic Indicators

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Outcome (ANOVA)	Pro	gram	Com	parison	df	F value	Star.
Outcome (ANOVA)	Ν	Score	Ν	Score	u	r value	Sig.
College intent (7 th graders)	149	2.61	151	2.50	299	1.641	.201
College intent (8 th graders)	150	2.53	153	2.62	302	1.273	.260
College intent (9 th graders)	149	2.47	152	2.59	300	2.308	.130
On-time homework completion (7 th grade)	150	1.93	152	1.82	301	1.396	.238
On-time homework completion (8 th grade)	150	1.99	152	2.07	301	.732	.393
On-time homework completion (9 th grade)	150	2.00	153	1.96	302	.179	.672
Outcome (ANOVA)	Pro	gram	Comparison		df	F value	Sig.
Outcome (ANOVA)	Ν	%	Ν	%	u	r value	Sig.
Summer school the previous summer (7 th grade)	149	5%	151	13%	299	2.968	.015
Summer school the previous summer (8 th grade)	150	5%	153	3%	302	.909	.341
Summer school the previous summer (9 th grade)	150	2%	153	2%	302	.001	.981

Short-term Program Outcomes

Family Life and Sexuality Education (FLSE)

Outcome (ANOVA)	Program		Comparison		df	Evolue	S:a
	Ν	%	Ν	%	ai	F value	Sig.
7 th grade	150	42%	153	42%	302	.032	.859
8 th grade	150	79%	153	49%	302	190.449	.000
9 th grade	150	82%	153	55%	302	135.529	.000

Financial Literacy

Outcome (ANOVA)	Program		Comparison		df	F value	C !
Outcome (ANOVA)	Ν	%	Ν	%	u	r value	Sig.
7 th grade	150	46%	153	29%	302	32.137	.000
8 th grade	150	71%	153	51%	302	44.259	.000
9 th grade	150	74%	153	57%	302	31.429	.000

Program Service Objectives

Bank Accounts

Outcome (ANOVA)	Program		Comparison		df	F value	Sta
	Ν	%	Ν	%	u	r value	Sig.
Has bank account (7 th grade)	148	95%	151	19%	298	422.685	.000
Has bank account (8 th grade)	150	93%	151	30%	300	215.226	.000
Has bank account (9 th grade)	149	92%	151	24%	299	269.597	.000

Health care

	Pro	gram	Com	oarison	df	T	C! -
Outcome (ANOVA)	Ν	%	Ν	%	aı	F value	Sig.
Use of ER (7 th grade)	150	9%	153	16%	302	4.094	.044
Use of ER (8 th grade)	150	12%	153	8%	302	2.025	.156
Use of ER (9 th grade)	150	9%	153	7%	302	.809	.369
Health checkup (7 th grade)	149	75%	152	68%	300	1.688	.195
Health checkup (8 th grade)	150	75%	151	80%	300	1.282	.258
Health checkup (9 th grade)	149	78%	150	77%	298	.012	.915
Dental exam (7 th grade)	150	85%	151	63%	300	19.461	.000
Dental exam (8 th grade)	150	80%	152	89%	301	4.502	.035
Dental exam (9 th grade)	150	87%	149	83%	298	1.335	.249
Eye exam (7 th grade)	148	70%	150	17%	297	122.430	.000
Eye exam (8 th grade)	150	91%	150	15%	299	428.655	.000
Eye exam (9 th grade)	149	83%	148	12%	296	291.144	.000

The following table shows the effect sizes and significance for each independent variable used in the linear regression equations for Tulsa 7th graders.

		Eff	ect sizes of ind	ependent var	riables	
7 th Grade Dependent variables	Male	Age	Caucasian	African- American	Latino	Net effect of program partic.
Long-term Program Outcomes:						
Ever been pregnant/caused a pregnancy (1=yes, 0=no):						
Mid-term Program Outcomes:						
Ever had sexual intercourse (1=yes, 0=no):	.014	.004	.004	.056	021	005
Condom use at last intercourse (1=yes, 0=no):	.299	271	.193	.126	.034	.074
Use of condom and non-coital method at last intercourse (1=yes, 0=no):	.032	.138	370	366	748	.328
Frequency of birth control use in the past 6 months:	1.44	.238	.399	2.299	-1.350	1.595
In physical fight during past 12 months (1=yes, 0=no):	.200***	.064	077	.041	117	.045
Carried a weapon during past 30 days (1=yes, 0=no):	.120***	059	.060	005	013	.035
Arrested during past 6 months (1=yes, 0=no):	019	005	.012	.028	-8.63	.005
Ever smoked cigarettes (1=yes, 0=no):	.000	-8.00	009	040	061	.066
Smoked cigarettes in the past 30 days (1=yes, 0=no):	001	006	009	009	024	.013
Ever used alcohol (1=yes, 0=no):	.002	044	038	062	078	.014
Used alcohol in the past 30 days (1=yes, 0=no):	024	007	055	.003	042	.036
Ever used marijuana (1=yes, 0=no):	.022	.060	074	047	067	.046
Used marijuana in the past 30 days (1=yes, 0=no):	.017	.000	033	015	005	014
College intent:	088	069	.019	.077	307**	.106
Homework completion:	190	.039	006	344*	259	.141
Short-term Program Outcomes:						
FLSE scores:	024	022	.009	038	103**	.007
Financial literacy:	022	074*	.003	073	097*	.166***
Program Service Objectives:						
Having a bank account (1=yes, 0=no):	.059	041	067	048	111*	.759***
Using the ER as the only source of health care (1=yes, 0=no):	004	034	062	.043	.033	091*
Having had a regular checkup within the past year (1=yes, 0=no):	038	.027	144*	096	071	.066
Having a dental exam within the past year (1=yes, 0=no):	.046	103	022	010	055	.203***
Having had an eye exam within the past year (1=yes, 0=no):	.077	069	028	064	.009	.528***

Difference is statistically significant at *p<.05 / **p<.01 / ***p<.001.

The following table shows the effect sizes and significance for each independent variable used in the linear regression equations for Tulsa 8th graders.

		Ef	fect sizes of ind	lependent va	riables	
8 th grade Dependent variables	Male	Age	Caucasian	African- American	Latino	Net effect of program partic.
Long-term Program Outcomes:						
Ever been pregnant/caused a pregnancy (1=yes, 0=no):	.007	.026	005	.019	011	021
Mid-term Program Outcomes:						
Ever had sexual intercourse (1=yes, 0=no):	.127**	.086	017	.127*	057	024
Condom use at last intercourse (1=yes, 0=no):	.302	191	.071	.136	033	.012
Use of condom and non-coital method at last intercourse (1=yes, 0=no):	103	.015	053	.037	045	040
Frequency of birth control use in the past 6 months:	.775	039	730	.279	703	.379
In physical fight during past 12 months (1=yes, 0=no):	.216***	056	.146*	.141*	035	038
Carried a weapon during past 30 days (1=yes, 0=no):	.095*	009	012	072	060	075*
Arrested during past 6 months (1=yes, 0=no):	.019	016	.004	.109***	.030	027
Ever smoked cigarettes (1=yes, 0=no):	.020	.013	023	147*	132*	.031
Smoked cigarettes in the past 30 days (1=yes, 0=no):	.018	040	.038	.017	004	023
Ever used alcohol (1=yes, 0=no):	056	032	021	183*	089	092
Used alcohol in the past 30 days (1=yes, 0=no):	.004	.025	.092	014	.008	059
Ever used marijuana (1=yes, 0=no):	.117*	.002	086	015	036	.052
Used marijuana in the past 30 days (1=yes, 0=no):	.042	021	.011	.106*	.021	090**
College intent:	073	082	079	.003	356**	092
Homework completion:	083	031	.191	199	081	063
Short-term Program Outcomes:						
FLSE scores:	042	026	.021	072*	117***	.303***
Financial literacy:	.029	036	.083*	052	122**	.209***
Program Service Objectives:						
Having a bank account (1=yes, 0=no):	.035	008	.047	024	069	.637***
Using the ER as the only source of health care (1=yes, 0=no):	.034	.039	006	.006	.052	.053
Having had a regular checkup within the past year (1=yes, 0=no):	.021	.030	009	004	087	044
Having a dental exam within the past year (1=yes, 0=no):	048	029	.055	.015	037	091*
Having had an eye exam within the past year (1=yes, 0=no):	005	.047	005	.015	.019	.773***

Difference is statistically significant at *p<.05 / **p<.01 / ***p<.001.

The following table shows the effect sizes and significance for each independent variable used in the linear regression equations for Tulsa 9th graders.

		Ef	fect sizes of ind	lependent va	riables	
9 th grade Dependent variables	Male	Age	Caucasian	African- American	Latino	Net effect of program partic.
Long-term Program Outcomes:						
Ever been pregnant/caused a pregnancy (1=yes, 0=no):	.001	.017	.009	.019	010	029
Mid-term Program Outcomes:						
Ever had sexual intercourse (1=yes, 0=no):	.126*	.107*	087	012	068	090
Condom use at last intercourse (1=yes, 0=no):	.321*	244*	.125	023	.027	037
Use of condom and non-coital method at last intercourse (1=yes, 0=no):	063	.006	043	096	026	034
Frequency of birth control use in the past 6 months:	.710	951*	.277	.078	188	.280
In physical fight during past 12 months (1=yes, 0=no):	.145**	.044	.005	.109	125	.011
Carried a weapon during past 30 days (1=yes, 0=no):	.122**	040	.059	042	104*	059
Arrested during past 6 months (1=yes, 0=no):	.004	004	009	008	010	.007
Ever smoked cigarettes (1=yes, 0=no):	.005	033	.100	177*	093	023
Smoked cigarettes in the past 30 days (1=yes, 0=no):	.022	041	.142***	.032	.009	032
Ever used alcohol (1=yes, 0=no):	066	045	029	136	028	072
Used alcohol in the past 30 days (1=yes, 0=no):	031	.017	005	.002	021	026
Ever used marijuana (1=yes, 0=no):	.048	.053	129	083	068	.056
Used marijuana in the past 30 days (1=yes, 0=no):	008	.017	.044	.105	.080	015
College intent:	083	189*	051	.093	168	159
Homework completion:	172	188	.177	155	159	.024
Short-term Program Outcomes:						
FLSE scores:	030	048*	.005	085**	141***	.266***
Financial literacy:	.053	080*	.088*	087*	122**	.175***
Program Service Objectives:						
Having a bank account (1=yes, 0=no):	.003	042	053	002	101	.676***
Using the ER as the only source of health care (1=yes, 0=no):	.031	.030	033	.035	.038	.029
Having had a regular checkup within the past year (1=yes, 0=no):	.057	.026	011	076	125	.021
Having a dental exam within the past year (1=yes, 0=no):	016	029	049	078	009	.042
Having had an eye exam within the past year (1=yes, 0=no):	024	029	107	120*	105	.700***

Difference is statistically significant at *p<.05 / **p<.01 / ***p<.001.

Appendix D: Statistical Tests in NYC

The following tables show details regarding the statistical tests used in NYC for each outcome that exists in both the CAS-Carrera program sample and the YRBS comparison samples in 2011 and 2013.

Long-term Program Outcomes

Pregnancy

Outcome (ANOVA)	Pro	gram	Comparison		A£	Evolue	Sta
	Ν	%	Ν	%	a	F value	Sig.
Ever been pregnant/caused a pregnancy (2011)	219	3%	202	10%	420	7.55	.006
Ever been pregnant/caused a pregnancy (2013)	219	5%	187	5%	405	.01	.922

Mid-term Program Outcomes

Sexual Behavior and Contraception

Outcome (ANOVA)	Pro	gram	Com	parison	đe	F value	Sig.
	Ν	%	Ν	%	a	r value	
Ever had sex (2011)	219	38%	175	36%	393	.07	.787
Ever had sex (2013)	219	38%	182	45%	400	2.10	.147
Condom use at last intercourse (2011)	83	82%	39	46%	121	18.54	.000
Condom use at last intercourse (2013)	83	80%	42	62%	124	4.54	.035

Violence and Delinquency

Outcome (ANOVA)	Pro	gram	Comp	oarison	df	F value	Sta
	Ν	%	Ν	%	u	r value	Sig.
Physical fighting in past year (2011)	218	23%	218	35%	435	8.21	.004
Physical fighting in past year (2013)	217	12%	219	28%	435	17.49	.000
Carried a weapon during the past 30 days (2011)	219	6%	213	9%	431	1.40	.237
Carried a weapon during the past 30 days (2013)	218	5%	218	9%	435	3.59	.058

Drugs and Alcohol

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Outcome (ANOVA)	Pro	gram	Comparison		df	F value	S:
Outcome (ANOVA)	Ν	%	Ν	%	a	r value	Sig.
Ever smoked cigarettes (2011)	216	6%	214	26%	429	34.03	.000
Ever smoked cigarettes (2013)	218	6%	213	21%	430	20.57	.000
Smoked in past 30 days (2011)	216	1%	214	7%	429	9.60	.002
Smoked in past 30 days (2013)	216	2%	208	6%	423	2.99	.084
Used alcohol in past 30 days (2011)	217	18%	197	32%	413	10.28	.001
Used alcohol in past 30 days (2013)	217	23%	204	30%	420	2.93	.087
Used marijuana in past 30 days (2011)	217	8%	208	24%	424	20.44	.000
Used marijuana in past 30 days (2013)	218	12%	208	20%	425	6.06	.014

The following table shows the effect sizes and significance for each independent variable used in the linear regression equations for the NYC 2011 sample.

	Effect sizes of independent variables										
Dependent variables (2011)	Female	Grade	African- American	Latino	Bronx	Brooklyn	Net effect of program partic.				
Long-term Program Outcomes:											
Ever been pregnant/caused a pregnancy (1=yes, 0=no):	.022	.060	017	018	100		067**				
Mid-term Program Outcomes:											
Ever had sexual intercourse (1=yes, 0=no):	103	.040	.003	.053		078	.010				
Condom use at last intercourse (1=yes, 0=no):	280**	030	024	170	.005		.334***				
In physical fight during past 12 months (1=yes, 0=no):	013	460	030	062	.380	402	125**				
Carried a weapon during past 30 days (1=yes, 0=no):	048	127	012	.003	.085	160	031				
Ever smoked cigarettes (1=yes, 0=no):	.007	297	046	.072	.331	241	203***				
Smoked cigarettes in the past 30 days (1=yes, 0=no):	025	111	036	.036	.105	110	060**				
Used alcohol in the past 30 days (1=yes, 0=no):	047	385	078	.042	.465	352	135**				
Used marijuana in the past 30 days (1=yes, 0=no):	.031	232	070	.003	.165	330	157***				

Difference is statistically significant at **p<.01 / ***p<.001.

The following table shows the effect sizes and significance for each independent variable used in the linear regression equations for the NYC 2013 sample.

	Effect sizes of independent variables									
Dependent variables (2013)	Female	Grade	African- American	Latino	Bronx	Brooklyn	Net effect of program partic.			
Long-term Program Outcomes:										
Ever been pregnant/caused a pregnancy (1=yes, 0=no):	.038	026	045	.029	155	128*	.002			
Mid-term Program Outcomes:										
Ever had sexual intercourse (1=yes, 0=no):	070	005	069	140	251	149	069			
Condom use at last intercourse (1=yes, 0=no):	073	132	.009	171	335	220	.182*			
In physical fight during past 12 months (1=yes, 0=no):	040	098	.006	066	089	.012	159***			
Carried a weapon during past 30 days (1=yes, 0=no):	.007	.017	053	036	.034	005	046			
Ever smoked cigarettes (1=yes, 0=no):	.045	.123	112	053	.144	.132	146***			
Smoked cigarettes in the past 30 days (1=yes, 0=no):	.019	033	065*	.008	088	.002	036			
Used alcohol in the past 30 days (1=yes, 0=no):	.082	004	111	081	041	029	075			
Used marijuana in the past 30 days (1=yes, 0=no):	.063	039	055	053	259	175*	088*			

Difference is statistically significant at *p<.05 / ***p<.001.