NYC Center for Economic Opportunity
Independent Evaluation

Evaluation of the Young Adult Literacy Summer Internship Study: Final Report

January 2011

Prepared for:
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Economic Opportunity (CEO)
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Foreword

The Center for Economic Opportunity (CEO) is committed to evaluating its programs and policies and has contracted with Westat and Metis Associates in order to inform decision-making within CEO and the sponsoring agencies. Westat and Metis have developed a collaborative team approach in the planning, design, and implementation of various types of evaluations including impact, outcome, and implementation studies. This study was conducted jointly by Westat and Metis staff.

The principal authors for this report are Allison D. Meisch at Westat and Jonathan Tunik from Metis. Additional authors include Amy Falk Smith and Matthew Carr (Westat) and Joy Zacharia (Metis). Invaluable support was also provided for data collection, data management, and consultation from staff at both Westat and Metis. In particular we would like to acknowledge the efforts of Priscilla Ek and Jennifer Hamilton at Westat and Donna Tapper, Eden Nagler, Ranjana Mendes, and David Jenkins from Metis.

We would like to acknowledge the cooperation of the study respondents, especially the program sites who allowed interviews, observations, and focus groups in their sites and delivered program data each month. All of the individuals who were contacted for the study agreed to be interviewed and generously offered their time and their ideas. We also appreciate the help provided by the staff of CEO, especially David Berman, who facilitated relationships with the literacy sites and has served as an invaluable resource during the project. We would also like to recognize the efforts of the New York City Department of Youth and Community Development, the New York Public Library, Brooklyn Public Library, Queens Public Library, and the Youth Development Institute who assisted with gaining access to the respondent group.

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Executive Summary

The Center for Economic Opportunity (CEO) Young Adult Literacy (YAL) program seeks to improve the literacy skills, math skills, and job readiness of disconnected youth in New York City. The program is one of the few in New York City that specifically addresses the literacy needs of young adults who read at the pre-GED level. This report presents the findings from an experimental evaluation of a summer work experience program that was added to the YAL literacy model to determine how it would impact attendance and educational outcomes. This report also provides a more general description of the YAL program model and its implementation.

The YAL Program

CEO supports 12 YAL sites that are operated by libraries and community based organizations. The program's curriculum and instructional approach are designed to meet the needs of young adults[1] who read at a 4th to 6th grade level. The programs also offer math instruction, work readiness, modest participant incentives, and case management services to support sustained participation. Sites serve cohorts of approximately 20 participants and are expected to engage them for six months or longer, as most participants need to advance several grade levels before entering GED programs or realistically competing in the job market. Programs offer 15 hours of instruction each week during the year and offer individual case management services.

The CEO program evolved out of conversations with many stakeholders and is modeled heavily on the Community Education Pathways to Success model developed by the Youth Development Institute. The Department of Youth and Community Development is a key partner and the agency oversees the work of the five community-based providers. The Brooklyn Public Library, New York Public Library, and Queens Public Library oversee the remaining seven sites.

The YAL sites, including those in this study, started in early FY09 (September 2008) and enrolled 619 youth in that fiscal year

According to program staff, retaining program participants long enough to have an effect is a serious challenge. Last spring, CEO became particularly concerned that many participants would drop out of the program and not return after the summer break. A work experience component was considered as an addition to the literacy classes, though it had not yet been implemented.

To address these concerns and to enhance the literacy program, CEO, the Department of Youth and Community Development, and the Youth Development Institute (YDI)[2] designed a paid summer work experience program aimed at promoting class attendance, and providing job skills and much needed income for participants. Participants were required to maintain good attendance in the classroom component to be eligible to participate in the paid work experience. Participating sites offered either group projects, such as leading a community recycling effort, or internship placements with local businesses and organizations.

Methodology

Westat and Metis were hired as external evaluators to develop an experimental evaluation to investigate the effects of the summer internship component and examine the partic-

[1] The program targets 17-24 year olds.

[2] YDI provides TA to all sites to assist in the development and implementation of the internship programs.

ipants' overall growth in literacy and math achievement over the summer session. We also used qualitative methods to describe how participants viewed the addition of the summer internship component to the YAL program.

The experimental evaluation used a cluster randomized design to determine the effectiveness of adding a paid summer internship to the standard YAL model. The use of random assignment made it possible to link participation in the internship component to learning gains and other outcomes of interest.

Nine of the 12 sites participated in the evaluation of the summer internship component.[3] Five sites were randomly assigned to the treatment group (including an internship component) and four sites were randomly assigned to the control group (no internship).

It was hypothesized that the addition of the paid internship component would enhance the participants' engagement in the literacy programs by providing them with an opportunity to apply the literacy, math, and job skills learned in the classroom component. In addition, the stipends provided to the participants were expected to further enhance their engagement in the program, as well as improve their attendance and retention, and reduce short-term economic hardship. Consequently, this increased engagement, attendance, and retention was expected to result in improvements in the participants' literacy, math, and job readiness skills over and above the improvements realized by participants in the control sites.

Attendance in the classes and in the internship component was tracked throughout the summer, and participants' literacy and math skills were assessed at the beginning and end of the eight week session. Furthermore, the programs' job readiness training was examined through interviews with key staff at each site and focus groups with treatment participants.

Description of the Summer Session and Participants

Summer Session: The YAL summer session model consisted of eight weeks of literacy and math classes, held for at least 12 hours a week.

Over the summer, participants at treatment sites had the opportunity to participate in weekly internships or group projects[4] designed to complement the literacy and math instruction going on in the weekly classes, as well as provide them with job readiness skills.

For the five treatment sites, the content of the internship component varied by site. Internships included working at a farm or market, preparing and serving community meals, conducting needs assessments in communities, participating in community improvement initiatives, working with community libraries, working in retail stores, conducting clerical office work, data processing, and participating in other opportunities.

Internships also engaged participants as a group in structured activities that met a community need and developed work skills (including team work, problem solving, leadership, etc.).

YAL Participants: Over the summer, 163 participants enrolled in the nine YAL sites

[3] The other three sites were ineligible to participate in the study because CEO identified them as not having the capacity to implement the summer internship component. Program data were collected, and key informant interviews were conducted with these sites, but they were not included in the evaluation.

[4] The internship or group project component is hereafter referred to as the "internships."

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included in the evaluation. Of the 163 participants, 79 attended the five sites offering the internships, and 84 attended the four control sites.[5] Participants were predominantly African American or Hispanic and were, on average, 19 years old. Most, participants had dropped out of high school after completing their freshman year. Prior to beginning the summer program, participants were reading at the 6th grade level, and had a 5th grade math level, on average.

Overall Summer Session Results – All Students

Multivariate analyses were conducted to examine if there were overall gains made by all participants (both treatment and control) over the course of the summer literacy programs. However, without a control group and with a fairly small sample size, comparisons of overall effects are correlational and should not be attributed to the program because alternative explanations for the observed results cannot be ruled out. Overall findings revealed that over the summer:

- Participants attended an average of 66% of the possible class hours.[6]
- Retention in the program was quite high, with 85% of the participants remaining in the summer session.[7]
- Participants made gains of approximately half of a grade level in reading.[8]
- Participants made gains of approximately half of a grade level in math.

Specific Impact of Summer Internship Component

The primary purpose of this evaluation was to determine if participants who engaged in literacy classes with an additional internship component would have better literacy, math, and job readiness skills as compared to students participating in the standard literacy classes. This analysis focused on differences between treatment and control students as opposed to the analysis of all students' overall gains. Analyses revealed that over the summer:

- Participants in the treatment group attended more summer classes (75% of possible class hours) than control participants (58%).
- Over 90% of the participants in the internship remained in the YAL program through the end of the summer, compared to 79% of the participants in the control programs.
- We found no differences in re-enrollment in the fall between treatment and control participants.[9]
- No differences were observed between the literacy gains of participants at treatment sites and the gains of participants at control sites.
- Participants in the internship increased their math scores by over a full grade level

[5] Class size was included as a covariate in early analyses; however the effect was not significant, so it was removed from the final models.
[6] Participant attendance was calculated by determining the percentage of possible hours of the literacy class that participants attended. For example, if a participant attended half of the possible hours for the literacy classes offered during the 8-week program, his/her attendance rate was 50%.
[7] Participant retention was measured by determining the number of youth who remained in the program through the end of the internship program on 8/20/09.
[8] Multivariate analyses revealed that this average gain was not made by all participants, but was largely driven by the performance of females and non-African American and non-Hispanic participants. However, because of the lack of comparison group and small sample size this finding is likely spurious. Moreover, the racial and gender performance disparities did not persist in the fall semester.
[9] Due to overall attrition, these analyses were based on small sample sizes and should be interpreted with caution.

over the course of the summer session, whereas, on average, control participants did not show any improvement in their math scores.

Job Readiness Skills: The effect of the internship program on participants' job readiness skills was also examined using qualitative data from key informant interviews and focus groups with treatment participants. In these interviews:

- Participants reported they felt supported in the internship component.
- Participants reported they were encouraged by the internships to "make an investment in their own job behavior."
- Staff reported the internships raised participant awareness of the value of providing services to their communities, and of the possibilities and rewards of working co-operatively with others.

Implementation: Internship Participation Analyses

Analyses were also conducted to examine participation rates in the internship component. Treatment participants attended 74% of the possible internship hours. More than half of the participants attended 80% or more of the internship hours possible. On average, participants earned $584 for their internship work, with some participants earning the full $800 for the summer.

Conclusion

This evaluation provides evidence that the YAL summer internship component met some of the originally proposed goals over the course of the summer. Overall, the summer YAL session was associated with increases in participants' literacy and math skills. Furthermore, the addition of the internship component strengthened the normal YAL program. Gains in math skills and increases in classroom attendance and retention were seen after a relatively short intervention (eight weeks) and in a relatively small sample (less than 200 participants).

The findings support the use of an internship as a possible means of increasing academic achievement and job readiness for disconnected youth.

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1. Overview of the Young Adult Literacy Program

1.1 Goals and Objectives

1.1.a. Center for Economic Opportunity General Program Goals

In an effort to break the cycle of intergenerational poverty in New York City, Mayor Bloomberg established the Center for Economic Opportunity (CEO) in 2006. CEO's approach to poverty reduction is innovative, in that it includes both significant financial commitments and highly targeted, performance-based interventions (CEO, 2009). CEO's strategy involves:

1. Breaking the cycle of intergenerational poverty by investing in human capital development.
2. Giving the working poor a toolbox of programs and supports that will help them move up the economic ladder and out of poverty for the long term.
3. Offering youth who are out of school and unemployed, and those who have a history of incarceration, better chances to gain the skills and work experience they need to succeed.
4. Intervening early in the lives of children ages 0–5 to break cycles of poverty.
5. Breaking down silos within government to promote new ways of collaborating, increasing efficiency, and making better use of limited resources.
6. Using data and evaluation to improve programs and allocate resources based on measurable results.
7. Sharing lessons learned and advocating on a national level for strategies shown to make a difference.

CEO funds approximately 40 programs for young adults, the working poor, and families. One such program, the Young Adult Literacy (YAL) Program was designed specifically to improve the literacy, math, and work readiness skills of disconnected youth.

In every borough of New York City other than Staten Island, at least 25% of adults are functionally illiterate, meaning they do not have the skills necessary to perform basic tasks such as signing a form or reading medical instructions (NCES, 2003). In addition, 21% of New York City residents do not have a high school diploma or GED (American Community Survey, 2009). The low skill level of these individuals makes it difficult for them to find and maintain employment and achieve economic security. These individuals with limited education who are excluded from the labor market are disproportionately Black, Latino, and young (Fischer & Reiss, 2010). Approximately 200,000 residents of New York City between the ages of 16 and 24 are disconnected, meaning they are neither employed nor in school (American Community Survey, 2009). Half of these disconnected youth lack a high school diploma and have extremely low literacy skills, lack of work experience, and lack of soft skills including communication, teamwork, and leadership abilities (Levitan, 2005).

In order to ensure that these disconnected youth have the opportunity to access education, find employment, and achieve economic security, basic skills programs designed to assist young adults in earning a GED and to provide them with early work opportunities must be available (Levitan, 2005). YAL is one such program that is designed to meet the needs of disconnected youth in New York City. This report provides the results from an experimental evaluation of the YAL program enhanced with an internship component.

1.1.b. YAL Program Goals

In alignment with the overarching goals of CEO, the YAL program seeks to improve the literacy skills, math skills, and job readiness of disconnected youth. By improving these skills, the program aims to re-engage young adults in school and their communities, prepare them for employment, improve their productivity, and reduce their risk for long-term poverty. Participants are encouraged to remain in the program until they have reached approximately an eighth grade reading and math level and can graduate to a GED preparation class. For the majority of students this means participating in the program for several two-three month sessions.

In the summer, services were provided for at least 12 hours per week and included a variety of instructional techniques to help participants reach their goals. In addition, participants had continued access to social support from caseworkers, social workers, and other support personnel.

Over the summer of 2009, a new internship component was added to the standard YAL model at several sites in order to evaluate the efficacy of a paired internship on outcomes. Five sites were randomly selected to provide a summer internship or group project component.[10] The internship component was designed to further enhance the youths' engagement in the program and improve their session attendance and retention. Consequently, it was hypothesized that this component of the program would further improve the young adults' literacy skills, math skills, and job readiness.

1.2 YAL Logic Model

The components of the YAL program are displayed in a logic model in Figure 1. The logic model is designed to show the specific goals of the program, the activities and resources that are designed to meet those goals, and the outputs and short- and long-term outcomes that are linked to the specific activities. In addition, the logic model includes the program's context, resources, and target population.

The white boxes in the logic model on the next page represent the typical YAL literacy class that was provided to all participants. The YAL literacy classes provided disconnected youth with a minimum of 12 hours of instruction per week over the course of an eight week summer session.

In addition, as shown in the shaded boxes in the logic model, the youth at the treatment sites participated in an internship in addition to the standard literacy program. These youth received stipend payments conditioned on their attendance in both the literacy classes and the internship. Theoretically, it was expected that the addition of the internship component would enhance the participants' engagement in the literacy classes as well as provide them with an opportunity to apply the literacy, math, and job skills they learn in class. In addition, the stipends provided to the participants were expected to further enhance their engagement in the program thereby improving their attendance and retention. Although all the pathways cannot be tested empirically, the logic model depicts conceptually how changes are expected to occur.

[10] The internship or group project component is hereafter referred to as the "internships."

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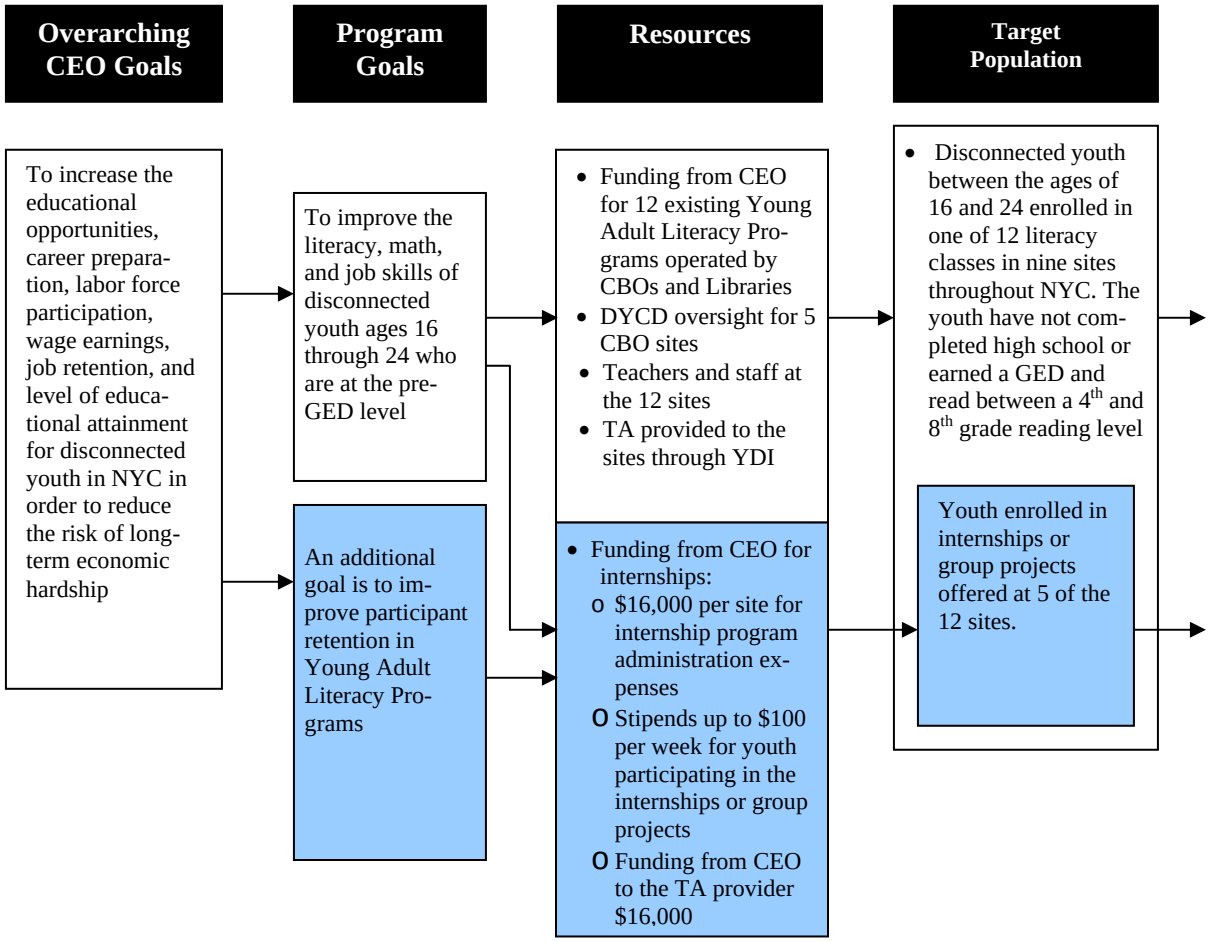
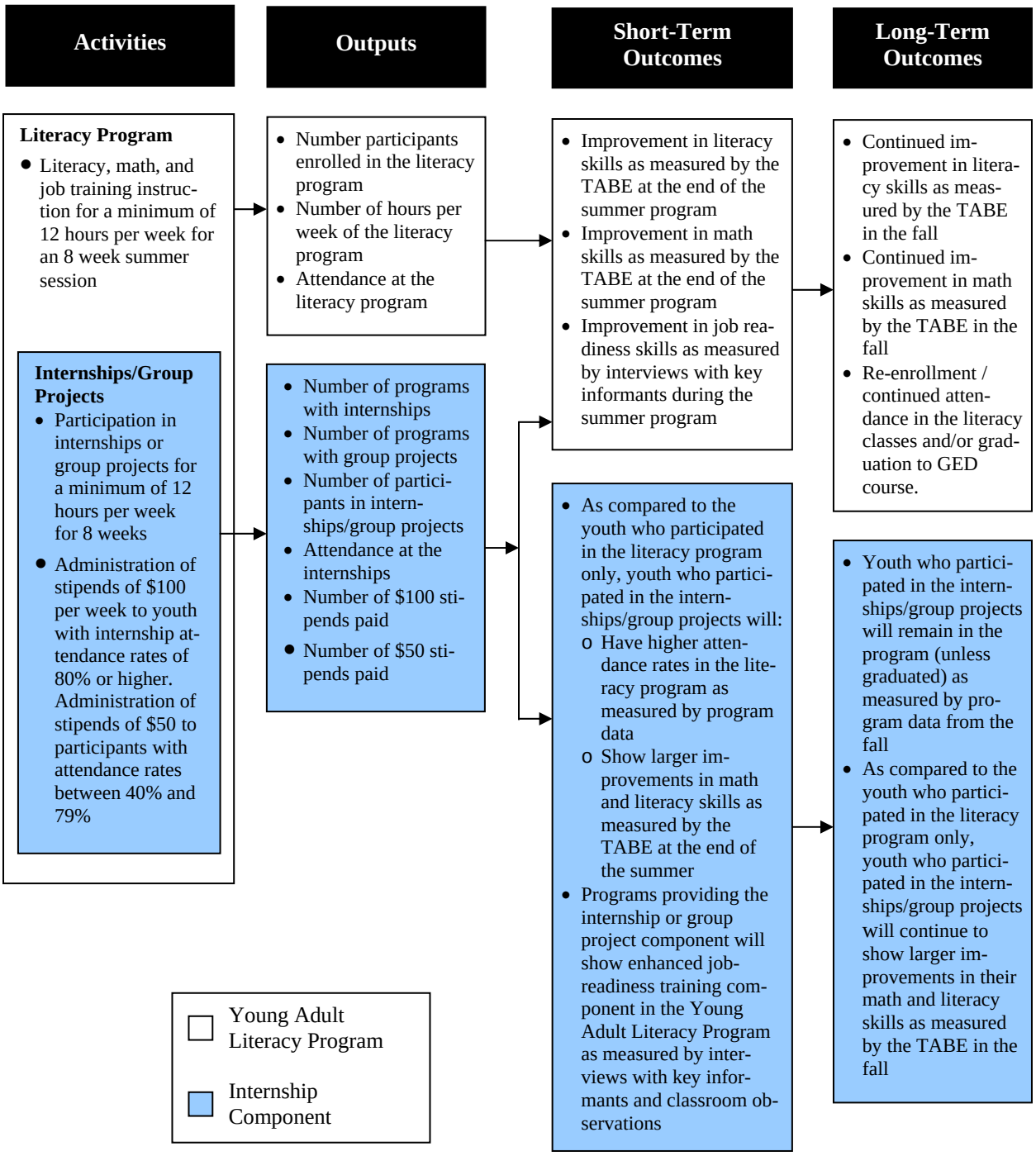
Figure 1
Young Adult Literacy Program Logic Model



Context

- In 2000, the poverty rate in New York City for youth between the ages of 16 and 24 was almost 25% with over 200,000 youth living in poverty (American Community Survey, 2009).
- One out of every five poor youth ages 16 to 24 in New York City is neither working nor in school. Over half of these disconnected youth drop out of high school, and many of them do not have the literacy skills necessary to participate in a GED program (Commission for Economic Opportunity, 2006).
- Based upon graduation data from 2005, 58.2 percent of high school students in New York City graduate within four years, and nearly 70 percent within seven years. This indicates that 30% of the students do not complete high school (Commission for Economic Opportunity, 2006).
- There is a clear link between educational attainment and poverty. In New York City, approximately 31% of working-age adults with less than a high school diploma are poor, whereas only 17% of those with a high school diploma are poor (Commission for Economic Opportunity, 2006).[1]
- In New York State in 2003, approximately 22% of adults age 16 and older lacked basic prose literacy skills, indicating that they had no more than the most simple and concrete literacy skills. Furthermore, four of the five counties that make up New York City had even higher percentages of adults who lacked basic prose literacy skills, ranging from 25% in New York County to 46% in Bronx County (NCES, 2003).

OVERVIEW OF THE YOUNG ADULT LITERACY PROGRAM



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2. Methodology

CEO contracted with Westat and its subcontractor Metis Associates to evaluate the YAL program with specific attention to the added value of the internship component. This section provides a brief overview of the methodology used in the evaluation. A more detailed description of the research design, data collection, and analytic methods is provided in Appendix A.

2.1 Research Design

The purpose of the evaluation of the YAL program was to examine participants' overall growth in literacy and math achievement over the course of the summer term. In addition, participants' job readiness skill, attendance and program retention were examined. Finally, we compared participants in the internship programs to participants in the control programs to evaluate the impact of an internship component on student achievement, attendance, and retention in the program.

2.1.a. Overall Program Participant Achievement Growth

To examine participants' overall growth during the course of the program, the evaluation team used a single-group pretest-posttest design. This type of research design allows researchers to examine changes in participant achievement over the course of the literacy classes; however, it is important to note that findings from this type of research design are correlational and do not indicate causality. Due to the absence of a valid control or comparison group (i.e., a group of participants who did not attend a YAL program), alternative explanations for the changes in participant achievement cannot be ruled out. These analyses are intended to be descriptive and are included in the evaluation to provide contextual information about the program.

2.1.b. Impact of the Summer Internship Component

Differences in achievement, attendance, and retention between internship and control participants were examined using a cluster randomized design. These analyses assessed the effectiveness of adding an internship component to the YAL program model. These analyses differ in design from the overall achievement analyses described in 2.1.a. The impact analyses in this section use randomization and statistical controls to compare the internship and control participants. Because of the design for these analyses, causal inferences about the effect of the internship component can be made in regard to the impact of the summer internship. Additionally, relationships between internship participation rates and key outcomes including literacy, math, and attendance were examined.

The nine eligible sites were randomly assigned to either the experimental condition (additional internship component) or control condition (literacy classes only). The remaining three sites were omitted from the evaluation: two did not offer a summer session, and a third site was offering its own internship program already, which would have conflicted with the randomization process.

In addition, we originally sought to evaluate the intermediate-term impact of the internship component on participant's literacy and math achievement, attendance, program completion, and program retention rates through the end of the fall program. However, high attrition rates (participants graduating, moving on, and dropping out) precluded us from pursuing this analysis.

2.2 Data Collection and Analysis

Evaluation of the summer 2009 YAL session was based on evidence collected through both qualitative and quantitative data sources, and evaluated with analysis methods appropriate to the data. Data were collected from various sources to increase the validity of the study.

2.2.a. Summer Quantitative Data Collection and Analysis

Program data were sent by each site to the evaluation team monthly over the course of the summer session. These data included:

- Demographic data describing each participant
- Records of literacy program attendance
- Records of participants' internship component attendance and the stipends they received
- Records of participants' program retention and completion

In addition, each site submitted available results of the Test of Adult Basic Education (TABE) on a monthly basis. The TABE is an assessment used to measure participants' literacy and math skills. At minimum, program instructors administered the assessments prior to the start of the summer session and at the end of the summer. The difference between participants' pretest and posttest was used to determine their growth in literacy and math achievement over the course of the program.

We examined the short-term effects of the YAL summer sessions on the academic achievement of all participants, both treatment and control, using a series of dependent samples *t*-tests. Multivariate analyses were used to examine whether achievement gains were mediated by various subgroups (e.g., age, gender, or racial/ethnic groups). As discussed previously, due to the absence of a control or comparison group[11] these analyses are purely correlational. Findings do not prove that changes in the participants' achievement were caused by the program.

In addition, we examined the short-term impact of the addition of the internship component to the YAL program using a series of multivariate models controlling for individual and site characteristics. These models examined differences between treatment and control participants on three dependent variables: reading achievement growth, math achievement growth, and attendance rate.

2.2.b. Qualitative Data Collection and Analysis

All nine participating sites were visited during the course of the eight week summer session. Site visits included up to three main data collection activities, depending on the site:

- Interviews of key administrative staff were conducted at all treatment and control sites and at the omitted site with summer programming.
- Observations of a literacy class were conducted at all treatment and control sites.
- Focus group interviews with internship participants.

The evaluators reviewed qualitative data sources for evidence of trends and variations across respondent groups to examine participants' job readiness skills and to describe program implementation.

[11] The evaluation of the CEPS program does provide some comparison; however, we were not able to statistically compare the gains made by participants in the CEPS and YAL programs, so these comparisons are descriptive.

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2.2.c. Comparison to the Community Education Pathways to Success (CEPS) Program

To provide further insight into the effectiveness of the YAL program, we compared the findings from this evaluation to the findings from an evaluation of the Community Education Pathways to Success (CEPS) program. CEPS is a literacy program provided at locations throughout New York City to a population of participants similar to those served in the YAL program. The mean literacy and math gains made by participants in the two programs, the duration of the programs, and participant retention rates were compared. The comparison helps to provide some context to the results of the YAL evaluation; however, in the absence of a statistical analysis, these comparisons are purely descriptive.

3. Overview of Summer Sessions and Implementation

The following section provides an overview of the program models at the nine sites studied (five treatment and four control sites).[12] General program observations across all sites are presented first, followed by pertinent distinctions between treatment and control sites where applicable.[13]

3.1 YAL Literacy Program

3.1.a. General Program Structure

CEO supports 12 YAL sites that are operated by libraries and community based organizations. The programs' curriculum and instructional approach are designed to meet the needs of young adults who read at a 4th to 6th grade level. The sites also offer math instruction, a work readiness or job placement component, modest participant incentives, and case management services to support sustained participation. Sites serve cohorts of approximately 20 participants and are expected to engage them for six months or longer, as most participants need to advance several grade levels to enter GED programs or realistically compete in the job market.

3.1.b. Summer Internship Program

In the summer of 2009, CEO provided funding to five sites (the "treatment" sites) to augment their summer literacy classes with eight week paid summer internships for the participants in their pre-GED programs.[14] The control group consisted of three organizations operating programs at four sites, which offered literacy and math classes but no CEO-funded internship. At all sites, summer programming was offered for 12 hours a week, usually Monday through Thursday.

The sites worked closely with the Youth Development Institute (YDI) to implement programs that developed participants' literacy and math skills and—particularly at the treatment sites—engaged them in real world experiences. Although each organization received on-site and technical support from YDI, some received additional professional development support from the New York City Department of Youth and Community Development (DYCD) and the Literacy Assistance Center (LAC).

Summer internships at the five treatment sites took a variety of forms involving work experiences and/or group projects. Descriptions of the internships are provided in section 3.2. As part of the internship component, participants at all of the treatment sites were offered a stipend (which was supported by CEO funds), provided through gift cards, for attendance at the internship. To be eligible to be paid for internship attendance, participants first had to attend at least 75% of the literacy class hours during the week. To receive the full $100 stipend, participants had to maintain an internship attendance rate of 80% or more each week. If a participant's internship attendance was between 40% and 79% during any week, the stipend was reduced to $50 for that week. If internship attendance fell below 40%,

[12] Twenty participants attended the program at an additional site which offered its own internship program and was therefore omitted from the formal evaluation. Due to the small sample size statistical analyses could not be conducted with this group.

[13] Interviews with key program staff were conducted at all sites. In addition, classroom observations were conducted at the treatment and control sites, while participant focus groups were conducted only at the internship sites. It should be noted that the omitted site should not be directly compared to the internship or control sites due to lack of randomization and comparable program and qualitative data.

[14] This funding was distributed by DYCD at the CBO sites, while the library sites received funding directly from CEO.

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the participant was not eligible for the stipend payment that week.

Although the treatment sites provided summer internships, some control sites also provided enrichment beyond literacy classes for participants during the summer session. Among the control sites, one referred two participants to a non-YAL program internship (sponsored by an independent organization), and one other arranged field trips for the summer since they did not have the internships. For a full description of program activities see Appendix B.

3.1.c. Literacy and Math Instruction and Activities

At both treatment and control sites, literacy curricula included a combination of established curriculum guides and teacher-created curriculum activities that integrated lessons from a variety of sources and built on instructional frameworks suggested by YDI and others. Established curriculum guides included those developed with the DYCD and YDI staff development teams, as well as published materials such as RAMP UP, Steck-Vaughn and Cambridge curricula and the Real Stories/Real Teens series.

Teacher-developed activities centered on research-based strategies such as "explicit instruction," which the National Institute for Literacy defines as a strategy to help participants buy into learning by explaining what they are doing in the instruction and why it is important, and DEAR (Drop Everything and Read), which consists of independent reading time followed by a discussion of the readings. Other research-based strategies used at these sites included: a balanced literacy approach based on a learning center model; differentiation of instruction for participants' particular needs; use of leveled, high interest reading materials; and a spiral curriculum to integrate participants coming in at different cycles.

As part of their math instruction, program coordinators at virtually all sites discussed strategies for integrating literacy and math. These strategies included the use of word problems and having participants read topics and find math components in their reading. For example, instructors would have students analyze tables and charts accompanying articles they read. Other examples of literacy and math integration included incorporating discussion of current events into instruction and how math skills are often used in reading the newspaper and developing "visual literacy" skills such as reading graphs that accompany text.

At the treatment sites, literacy and math skills were further strengthened through activities associated with the internships. For example, at one site participants were expected to fill out an "internship reflections" form each week, while at another site participants prepared tables, charts, and reports summarizing results of their community surveys.

3.1.d. Strategies to Improve Attendance/Retention

All of the sites offered participants a variety of incentives to encourage attendance and improve retention. The most commonly reported incentive was metro cards. Other incentives included McDonald's coupons, iPods and netbooks, other electronics, fitness workshops, pizza parties, field trips, basketball games, and tickets to sporting events. These incentives were provided as rewards for established attendance and/or performance criteria that varied by site. To a large extent, however, the most important factor contributing to attendance and retention may have been the quality of the sites themselves. As one staff member said, "The participants love the fact that we were providing transportation for

them. They love that they can get individual attention, and they love the fact that we are not only concerned about their academic programs but also about personal issues that they face."

Participants at the treatment site had the additional incentive of the internship stipend. Project staff at the treatment sites reported that they believed these stipends to be a major incentive for program attendance and retention.

Although staff were convinced of the importance of the internship stipend, they also felt that the additional incentives were important. As the program director at one of the treatment sites pointed out, even with the incentive of the stipend, "The purpose of these [other] incentives was to diminish any demotivating factors that may have emerged if individual participants did not meet the requirements to receive the [internship] stipend."

3.2 Internship Descriptions

The five internship sites were given some guidance as to how to construct the internship component for their participants, but sites were allowed to design internships that fit their individual needs. Guidance was provided about attendance standards, payment based on attendance, and types of internships that could be provided, but sites were asked to submit their own proposals for internship activities. Proposals were reviewed before implementation began. The primary guideline that was standard across all sites was the internship had to be offered for at least 12 hours each week, and participant attendance hours in the internship had to be collected. This component is therefore used as the implementation fidelity criteria.

All five of the treatment sites indicated that their internships were intended for all YAL participants, including one site that indicated that internship participation was explicitly required.

Among the five treatment sites in the summer 2009 YAL program, three offered their YAL participants one or more internship opportunities. Participants at one site worked together on group projects, while at another site, participants engaged in an internship for the first month of the program and collaborated on group research projects in the second month. Following are brief descriptions of these internships and projects.

- Site 1 provided three inter-dependent internship options focusing on environmental, nutrition and health concerns within the community. Participants chose to work in one of three environments: assisting the Site 1 organic garden and farm in Rockland County, NY; preparing and serving community meals; or operating a weekly neighborhood market. The three components were mutually supportive—the farm supplying produce for the market and the meals, the market preparing baked goods for the meals program, and the market communicating with the farm to plan ahead for demand—providing participants' opportunities to collaborate both within and across activities.
- Participants in Site 2 engaged in group projects centering on a "greening" theme, with a focus on recycling and energy conservation in the community. Participants learned about conservation issues through presentations by staff from the New York City Offices of Waste Prevention and Recycling and through field trips to a self-sustaining community, thematic exhibits, and movies. Participants conducted needs assessment surveys of residents and of the physical environment and raised awareness in the community by publicizing the results of the surveys in the context of the

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global issues about which they had been learning.

- At Site 3, for the first month participants worked individually or in teams of two to three on a community improvement and gardening projects. They learned about conservation through presentations by an environmental non-profit organization, while a consultant supported them in their community improvement work. In August, participants researched background information on topics such as air/water quality, quality of fish and wildlife, erosion control and toxicity of industrial products.
- YAL participants in Site 4 chose between two internship programs: mentoring participants of a summer youth program in partnership with a community library, and working with a community organizer at a local youth and community development foundation. For the mentorship program, YAL participants worked with 12- to 15-year-old program participants and their parents, discussing and providing guidance on topics such as drug abuse and awareness. Participants also assisted the library with shelving books. For the community development foundation project, participants worked in small groups, providing data collection and data entry for community surveys that addressed the community's perspectives on screening for public benefits.
- Site 5 provided several different internship opportunities with a variety of local merchants. Internships included clerical work at a realtor's office; stocking, or designing and sewing wedding gowns at a bridal shop; facilities maintenance at a local counseling center; and customer service, store management, and inventory at a thrift store. In addition, several YAL participants assisted the youth counselors at the organization's summer program for teens, computer activities and hands on projects.

Internships provide both general job readiness skills, and job-specific skills. Although these internships often developed job specific skills, program staff indicated that this was not the primary purpose of the internships. Rather, the emphasis was on general job readiness skills that are critical to employability, such as negotiation, time and money management, planning and strategizing. There was consensus among program staff and participants alike that these activities were effective in these areas.

For the participants, many of whom have had limited and/or negative previous work experiences, developing such soft skills is an essential first step. The internship experiences helped familiarize participants with certain behavioral expectations, such as responsibility, reliability and punctuality, which they would encounter at any work-place, but which they may have never fully been held accountable to before. Several participants talked about strengthening their verbal and written communication skills, interpersonal skills, and gaining a better understanding of the level of formality and deference expected in an employer/employee relationship. Staff and participants from several sites extolled the benefits of the internships for raising participants' awareness of the value of providing service to their communities, and of the possibilities and rewards of working cooperatively with others.

The participants reported that they felt as though they benefited from the internship program. Types of benefits that were mentioned were "expanding their horizons" and "opening their eyes" to the possibilities by which these experiences helped them feel that meaningful employment is an achievable goal and encouraged them to "make an investment in their own job behavior."

In addition to general job readiness skills, some internships also provide experiences that developed more specific knowledge and skills. Some of the specific areas included nutrition, weatherization, sewing, gardening, skills such as clerical work, data entry, painting and maintenance; as well as identifying opportunities for "green" jobs—that might prepare them more directly for employment. Although several sites agreed that the primary intent of these programs was more job readiness than job preparation per se (as one coordinator commented, "we don't expect people will become farmers"), at least one site specified that the internship sponsors invested in these participants by training them with the skills necessary to perform the duties of their jobs.

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4. Participant Characteristics

4.1 Summer Participant Characteristics

The nine YAL sites that are part of this evaluation enrolled 183 participants during the summer program.[15] Of these, 79 attended the five internship sites and 84 attended the four control sites.[16] Approximately half of the summer participants were returning students that had participated in the previous semester.[17] The number of participants enrolled in each program ranged from 11 to 31, with a mean of 19.6 participants per site. Table 1 shows the number of participants enrolled in each type of program (treatment and control) during July.[18]

Table 1. Number of Participants in the Summer YAL Program

		Participants per Site		
	Total	Mean (SD)	Minimum	Maximum
Internship Sites	79	15.8 (4.4)	11	21
Control Sites	84	21.0 (7.3)	15	31
Overall	183	19.6. (5.4)	11	31

4.1.a. Summer Demographic Data

Table 2 provides a summary of the characteristics of the participants in the YAL program in July 2009. Compiling data from multiple sites proved to be difficult, as each site did not have information for all elements of participant characteristics as requested for the evaluation.[19]

Table 2. Summer Participant Characteristics

	Overall	Treatment	Control
Number of Participants	183	79	84
Age			
Mean	19.8	19.8	19.6
SD	2.3	2.2	2.3
Minimum	15.8	15.8	16.1
Maximum	25.4	24.7	25.4
Gender			
Male	57.4%	67.1%	48.8%*
Female	42.6%	32.9%	51.2%*
Race/Ethnicity			
African American	47.0%	41.8%	45.2%
Hispanic	39.3%	44.3%	42.9%
Other	13.7%	13.9%	11.9%
Highest Grade Level Completed			
Mean	9.7	9.7	9.5
SD	1	1.1	1
Minimum	6	6	7
Maximum	12	11	12

* $p \leq .05$; **$p \leq .01$; denotes a statistically significant difference between the treatment (internship) and control groups.

[15] Youth who attended at least 1 day of the program in either July or August were considered to be "enrolled."

[16] Class size was included as a covariate in early analyses; however the effect was not significant, therefore, it was removed from the final models.

[17] We did not have access to attendance data prior to June 1, 2009, so we cannot determine whether these participants actually attended the YAL program prior to the start of the summer session.

[18] Enrollment data are presented because we did not have reliable data on average daily attendance. However, enrollment numbers do not necessarily reflect the actual number of participants in the classroom on a typical day.

[19] This led to some instances of missing data for sites. Despite efforts to collect as complete a data set as possible, substantial data remained missing for specific elements, specifically employment history information. Due to the amount of missing data on this variable, the descriptive data on the participants' employment history are not presented.

The participants enrolled in the program in July ranged in age from 15.8 years to 25.4 years, with a mean age of 19.8. Overall, 105 males and 78 females participated in the summer program. The majority of the participants were either African American (47%) or Hispanic (39%); only a small percentage of the participants were from another racial/ethnic group (14%).[20] The highest grade that the participants completed ranged from 6th grade to 12th grade and the mean educational attainment of the participants was roughly 10th grade.

We tested for baseline equivalency of treatment and control groups and found no statistically significant differences between the treatment and control groups on age, race/ethnicity, or education. However, we did find that the groups differed significantly on gender.[21] The majority of the participants in the treatment group were male (67%), whereas in the control group, male (49%) and female (51%) representation was almost equal.[22]

4.1.b. Summer Literacy and Math Skills

At the beginning of the summer, participants had, on average, a 6th grade reading level, (ranging from 2nd to 10th grade). Similarly, the mean math grade level was 5th, with a range of roughly 1st grade to 10th grade.

We tested for baseline equivalency of treatment and control groups and found that they did not significantly differ on their math level prior to the YAL program.[23] However, the reading level of the treatment group was significantly higher than the reading level of the control group.[24] This difference in initial reading level could impact the findings of the evaluation. Therefore, we statistically controlled for initial reading level in our analyses. Table 3 shows the baseline reading and math grade level of the summer program participants.

Table 3. Summer Participants' Baseline TABE Scores

	Overall (n = 163)	Treatment (n = 79)	Control (n = 84)
Reading			
Mean	6.0	6.3	5.9*
SD	1.6	1.7	1.5
Minimum	2.4	4.0	3.0
Maximum	10.3	10.0	10.0
Math			
Mean	5.0	5.0	5.1
SD	1.5	1.5	1.5
Minimum	1.5	2.1	1.5
Maximum	9.9	8.1	9.9

*$p \leq .05$; denotes a statistically significant difference between the treatment (internship) and control groups.

[20] The "other" category includes White, Asian, Native American, and Indian/Pakistani.

[21] $\chi^2(1, n = 163) = 5.57, p = .018$

[22] One internship site served only male participants, which may account for this difference.

[23] $t_{127} = .367, p = .714$

[24] $t_{149} = -2.062, p = .041$

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5. Results

This section discusses the quantitative evidence of program effectiveness, which is supplemented by qualitative data relevant to the YAL summer session, including evidence from staff interviews, participant focus groups, and class observations. Specifically, the findings for the following areas are presented: (a) program attendance; (b) participants' literacy and math skills; (c) program retention; (d) and participants' job readiness and plans for the future. In addition, the impact of implementation fidelity on literacy achievement, math achievement, and program attendance is reported.

5.1 Summer Session Effects on Class Attendance

5.1.a. Qualitative Perceptions of Internship Effects on Attendance

At the treatment sites, the requirement that literacy class attendance be tied to receipt of the internship stipends was expected to increase class attendance. In fact, most program coordinators at these sites agreed that the internship stipends helped improve attendance. Furthermore, some coordinators, and participants as well, pointed out that finances for this population are often a critical issue.

However, both staff and participants agreed that it was not only the money that helped to improve attendance. They noted that being paid for their internship work helped to instill a "sense of pride" in what they were doing and an increased work ethic and sense of responsibility, which they believed translated into better attendance in the classroom. One coordinator noted that "the stipends help to teach participants that there is value in their investment of time and effort. It's a really powerful incentive." Another coordinator pointed out, "The program has instilled discipline, a strong work ethic and a sense of responsibility in the participants. They have to attend class regularly to participate in the internship. …our attendance and retention were at optimal levels as a result of the paid internship." At one site, participants even went so far as to say that the stipend, while extremely important, was not in itself the primary motivation for them to come. These participants—as at the other treatment sites—were motivated by pride in their work, and perceptions that instructors and staff understood and cared about them.

Clearly, the generally positive perception that participants had of the program could be expected to positively influence both attendance and retention. This was true for the control sites as well as the treatment sites. In addition, while the control sites did not have the advantage of the internship as an incentive, they felt that the other attendance incentives were helpful. Other factors that were believed to help attendance were proximity of the program to participants' homes and scheduling that accommodated participants' preferences, for example not scheduling classes on Fridays.

There are also many circumstances in these participants' lives that interfere with their participation in the program. For both treatment and control sites, it was observed that this population tended to be transient, and perhaps more likely to encounter challenges such as pregnancy or incarceration. Staff at one site mentioned that retention in its YAL program had not been as good as at other programs they operate, yet they noted this may be due to the nature of population served by the YAL program. However, there was a clear consensus among the participants themselves that their intention was to stick with the program until they got their GEDs. Indeed, one participant who was pregnant nevertheless remained very committed to the program and reportedly had one of the high-

est attendance rates in her class, despite morning sickness.

5.1.b. Quantitative Effects of the Internship on Program Attendance

Program data were used to examine whether the addition of the internship component had any effects on students attendance rates in the literacy program. Literacy class attendance data are presented in Table 4. Over the months of July and August, the average participant attended 66% of the possible literacy class hours offered.[25] The treatment group had a mean attendance rate of 75%, and the participants in the control group had a mean attendance rate of 57%.

Table 4. Literacy Program Attendance Rates

	Overall (*n* = 163)	Treatment (*n* = 84)	Control (*n* = 79)
Percent of Participants with			
>80% Attendance	37.4	54.4	21.4
50-80% Attendance	31.9	27.8	35.7
<50% Attendance	30.7	17.7	42.9
Adjusted Attendance Rate Mean (SD)	66% (.28)	75% (.25)	57% (.26)

The results of the Hierarchical Linear Modeling (HLM) model are provided in Table 5. The results indicate that the addition of the internship component was associated with a borderline statistically significant[26] increase in participants' attendance rates (approximately 17% of possible hours).[27] The other variables in the model, class size, age, gender, and race, were not statistically significantly associated with the participants' attendance rates.

Table 5. Results of HLM Analyses Examining the Impact of the Internship on YAL Program Attendance

Class Attendance Rate	Coefficient
Internship, γ_{01}	0.17*
Program Size γ_{02}	0.00
Age, β_1	0.01
Female, β_2	-0.06
Hispanic, β_3	0.02
Other Racial/Ethnic Group, β_4	0.10
Intercept, γ_{00}	0.58***

*$p \leq .1$; **$p \leq .05$; ***$p \leq .01$

5.2 Summer Session Effects on Literacy and Math

5.2.a. Qualitative Perceptions of Program Effects on Literacy and Math Scores

Staff from both treatment and control groups described a variety of features of their sites that they expected to have a positive impact on participants' literacy and math skills. They discussed the advantages of new instructional approaches that were being adapted, the reinforcement provided by extracurricular activities, and the instructors' success in reaching participants because of the personal con-

[25] Because a large number of participants enrolled in the program after the programs' start date, attendance was adjusted for late starting participants. To calculate the variable, we divided the total number of hours the participant attended the program by the total number of hours the program was offered minus the number of hours that the participant missed prior to enrolling in the program.

[26] The inclusion of HLM results that are "marginally" statistically significant ($p < .10$) is common within the field of educational research (Lee & Burkam, 2003).

[27] $\gamma_{01} = .17$, $p = .057$

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nections that they develop, as factors in helping improve participant skills. One program coordinator also pointed out that since their attendance had improved, participants were reading more.

Staff from both the treatment and control sites provided examples of participant successes. These included an observation that participants were demonstrating greater interest in reading by asking for specific book titles, as well as asking for more math instruction. They talked about one participant who obtained a GED after entering the program at a 5th grade reading level, and another who they believed was improving but did not show in her test scores until they jumped two levels at the end of a year. The coordinator at one of the control sites said that some participants could not read or write very well when they came in, but now were composing creative writing and personal stories for their newsletter. Stories abounded at both treatment and control sites of participants increasing their TABE scores, qualifying for GED classes, obtaining GEDs, applying for college, and getting jobs.

Although some coordinators felt that it was too soon to tell whether the participants were showing improvements, several believed that they were seeing some of their best results. Although the internships did provide additional opportunities for participants to strengthen their math and reading skills, in at least one treatment site, even the participants mentioned that they thought the internship was improving their skills and had helped make them feel more confident about testing.

5.2.b. Quantitative Effects on Literacy Scores

Overall

The quantitative results indicate that participation in the overall YAL program is associated with an increase in the participants' literacy skills. We found that, on average, participants' literacy scores improved by approximately one half of a grade level (.52 grade levels) over the course of the eight week summer session.[28]

However, the increase in scores was associated with specific participant characteristics. Females gained just over one grade (1.11) in reading more than males. In addition, the scores of participants from racial/ethnic groups other than African American or Hispanic increased by 1.73 grades more than the scores of African American and Hispanic participants.

These findings indicate that females and participants from racial/ethnic groups other than African American and Hispanic tended to make the largest gains over the course of the summer program. However, it is not clear that there is a pattern: these gender and racial disparities were not present in the fall performance data. Furthermore, these effects cannot necessarily be attributed to the YAL program. Because there is no control group, and YAL participants self-selected into the literacy program, the relationships between literacy achievement over the course of the program and participants' race and gender are purely correlational and do not indicate causality. There are many possible alternative explanations for the large gains made by females and participants from racial/ethnic groups other than Hispanic or African American that cannot be directly tested in the absence of a more rigorous research design.

Summer Internship

In contrast to the correlational nature of the evaluation of the YAL program as a

[28] $t_{85} = -2.451, p < .001$

whole, the evaluation of the internship component of the program utilized an experimental design and therefore it is possible to connect participant outcomes to the addition of this component. The results of the ordinary least squares (OLS) regression models indicate that the change in the literacy scores of participants in the internship group (treatment) was not significantly different from those of participants in the control group (no internship).[29] This suggests that the addition of the internship component did not have any effect on the participants' literacy skills. The results are displayed in Table 6.

Table 6. Regression of Participant and Program Characteristics on Literacy Achievement

Overall Literacy Achievement Growth	Coefficient
Internship Program	0.17
Age	0.03
Female	1.11***
Hispanic	-0.48
Other Racial/Ethnic Group	1.73***
Time Between Pre- and Post-test	-0.01
Constant	-0.69
R^2	0.20

*$p \leq .1$; **$p \leq .05$; ***$p \leq .01$

5.2.c. Quantitative Effects on Math Scores

Overall

The results of the quantitative analyses indicate that participation in the overall YAL program is associated with an increase in participants' math skills. On average, participants' math scores improved by over half of a grade level (.59 grade levels) over the course of the eight week summer session.[30]

Summer Internship

The HLM analysis shows that participants in the treatment group improved their math scores by approximately 1.11 grade levels more than the control group.[31] The results of the HLM analyses of the impact of the YAL internship component on participants' math achievement are displayed in Table 7.[32] Of note, none of the participant characteristics showed a statistically significant relationship with participant math achievement gains.

Table 7. HLM Analysis Examining the Impact of the Internship on Change in Participants' Math Achievement

Overall Math Achievement Growth	Coefficient
Internship, γ_{01}	1.11**
Age, β_1	0.04
Female, β_2	0.08
Hispanic, β_3	0.46
Other Racial/Ethnic Group, β_4	0.80
Time Between Pre- and Post-test	0.01
Intercept, γ_{00}	-0.05

*$p \leq .1$; **$p \leq .05$; ***$p \leq .01$

5.3 Summer Session Effects on Participant Retention

We found that overall, 85% of the participants in the summer session (both treatment and control participants) remained through

[29] For details on model covariates and an explanation of why OLS regression was used, see Appendix A.

[30] $t_{70} = 2.986$, $p = .004$

[31] $\gamma_{01} = 1.11$, $p = .043$

[32] For details on model covariates and an explanation of why HLM was used instead of OLS regression see Appendix A.

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the end of the internship. In addition, we found that the addition of the internship component had a significant positive impact on the number of participants who were retained in the program.[33] Overall, only 79% of the participants in the control group were retained in the program through August 20th, 2009,[34] whereas 91% of the internship participants were retained. Table 8 shows the number of participants in the internship and control sites that were retained through the end of the internship program.

Table 8. Percent of Participants Retained Through the End of the Internship Program

	Percent Retained
Treatment	91.1%*
Control	78.6%
* $p \leq .05$	

5.4 Job Readiness/Participants' Plans for Their Future

Qualitative data from key informant interviews, classroom observations, and focus groups with treatment participants were used to examine whether the addition of the internship component increased the job readiness skills of the participants and enhanced the job-readiness training component of the literacy program.

Although the eight week summer session was perhaps too short to justify a formal assessment of the proportion of participants pursuing jobs or further education, there were numerous examples of how the internships, including the experience of being paid for their work, appeared to strengthen participants' job readiness. Staff observed changes in participants' attitudes and behavior, verifying the intent of the program design. For example, one commented that, "…a lot of our guys made new changes in their whole approach to the investment [in the internship]…in their behavior, their own job behaviors." The staff member who noted the impact on attendance of the program's contribution to participants' work ethic and sense of responsibility also observed that these attitudes are important for a job.

Among both treatment and control sites, many staff felt they had had some successes in the numbers of participants pursuing their GEDs or applying for jobs.

Focus group participants at the treatment sites were quite articulate about how they felt that the program as a whole, and the internships in particular, helped prepare them to pursue their goals. By far the most common comment about their short-term goals was that they came to the program to get a GED. Quite a few also mentioned larger and longer term goals, including a desire to go to college, "to get ahead in life," or to provide a better life for their family. Several focus group respondents also articulated fairly specific professional goals, including the pursuit of careers such as nursing or law. There was consensus that the program was helping them pursue these goals.

Many participants volunteered that the internship helped them to develop a variety of the soft job readiness skills that staff had said the program was designed to build, and explicitly recognized that these were skills they would need for a job. Participants spontaneously mentioned skills such as learning how to "deal with different personalities;" becoming more comfortable communicating with people in a work environment; and learning responsibility, punctuality, and how to dress and show respect. Although they said they

[33] χ^2 (1, n = 163) = 4.95, p = .03
[34] Several of the internship programs ended on 8/21/09, therefore, any participant who left the program prior to 8/20/09 for any reason other than completing the program, was classified as a dropout.

were "not necessarily" planning to pursue jobs related to what they were doing in the internships, they did say that they felt more focused, more mature, and more motivated and had greater confidence in their capacity to reach their goals. One treatment site participant pointed out that the program "prepares me for the working world, and the workforce preparation is something I can put on my résumé."

5.5 Internship Participation and Program Attendance

5.5.a. Internship Participation

Across the eight weeks of the summer program, the participants' mean internship attendance rate was 74%. The internship attendance rates ranged from 0% to 100%, with 52% of the participants attending more than 80% of the total possible internship hours. An additional 29% of the participants had internship attendance rates between 50% and 80%. Five internship participants enrolled in the program after the program start date, which lowers the reported internship attendance rates. Table 9 shows descriptive statistics for the participants' internship attendance rates.

Table 9. Internship Program Attendance Rate

Percent of Participants with:	
>80% Attendance	51.9%
50-80% Attendance	29.1%
<50% Attendance	19.0%
Attendance Rate	
Mean (SD)	74.0% (.28)
Minimum	0%
Maximum	100%

Participants attending at least 75% of the classroom hours were eligible to receive a weekly stipend if they also attended the internship. Eligible participants could earn up to $100 weekly, for a total of $800 dollars over the course of the summer session. Internship attendance varied weekly, as did the amount of stipend payments participants received (see Table 10).

Table 10. Percentage of Participants Receiving Full, Partial, and No Stipend

	Full Stipend ($100)	Partial Stipend ($50)	No Stipend ($0)
Week 1	68.4	19.0	12.7
Week 2	72.2	8.9	19.0
Week 3	64.6	10.1	25.3
Week 4	69.6	6.3	24.1
Week 5	72.2	10.1	17.7
Week 6	68.4	7.6	24.1
Week 7	63.3	6.3	30.4
Week 8	69.6	3.8	26.6

Overall, the average internship participant received $584.18 during the internship program, with a range of $50 to $800.

5.5.b. Relationship between Internship Participation and Literacy Program Attendance

Program data for treatment participants were used to examine the relationship between internship participation and participant attendance in the literacy classes. The results of this analysis are presented in Table 11.

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Table 11. Relationship between Internship Participation and Class Attendance

Class Attendance Rate	Coefficient
Internship Attendance Rate[35], β_5	0.19***
Participants per Site, γ_{01}	-0.01*
Age, β_1	0.02**
Female, β_2	-0.01
Hispanic, β_3	0.03
Other Racial/Ethnic Group, β_4	0.04
Intercept, γ_{00}	0.76***

*$p \leq .1$; **$p \leq .05$; ***$p \leq .01$

After controlling for participant and site characteristics, the association between the class attendance rate and internship participation was statistically significant.[36] The more internship hours a participant attended, the more literacy class hours they typically attended.[37] However, because the analysis involves only the treatment group it cannot be determined whether higher internship attendance caused the increase in class attendance or whether more motivated participants simply chose to attend more of both opportunities.

5.5.c Relationship between Internship Participation and Literacy Program Re-enrollment

In the fall, 58.9% of the summer session participants returned to the program. The remaining participants either graduated prior to September (13.5%) or left the program (27.6%). There was no statistically significant difference in the percentage of participants who returned to, left, or graduated from the program in September between the treatment and control groups (Table 12).

Table 12. Percentage of Participants who Returned to the Program in September

	Overall (n = 163)	Treatment (n = 84)	Control (n = 79)
Returned	58.9	53.2	64.3
Left	27.6	29.1	26.2
Graduated	13.5	17.7	9.5

*$p \leq .1$; **$p \leq .05$; ***$p \leq .01$

5.5.d. Relationship between the Level of Internship Participation and Literacy and Math Achievement

Using just data from the treatment students we examined the association between the level of internship participation and participants' literacy and math skills. We found no statistically significant relationship between internship participation and changes in either literacy or math skills. Additionally participant and program characteristics were not significantly related to changes in either literacy or math scores (see Tables 13[38] and 14[39]). In other words, how many internship hours a participant attended did not predict how well they would perform on the literacy or math portion of the TABE. This indicates that for participants at the treatment sites, attending more internship hours was not related to an increase in academic scores.

[35] The internship rate was standardized (M = 0, SD = 1).

[36] $\beta_5 = .19, p < .001$

[37] Some sites offered the internship after morning classes assuming they'd stay and increase attendance, however others offered the internship on a different day than classes were offered.

[38] $R^2 = .23, p = .07$

[39] $R^2 = .18, p = .467$

Table 13. Relationship between Internship Participation and Literacy Achievement

Overall Literacy Achievement Growth	Coefficient
Internship Attendance Rate[40]	-0.27
Program Size	-0.12
Age	0.13
Female	0.93
Hispanic	-0.93
Other Racial/Ethnic Group	1.27
Time Between Pre- and Posttest	-0.02
Constant	0.95
R^2	0.23

*$p \leq .1$; **$p \leq .05$; ***$p \leq .01$

Table 14. Relationship between the Level of Internship Participation and Math Achievement

Overall Math Achievement Growth	Coefficient
Internship Attendance Rate[41]	0.23
Program Size	-0.15*
Age	0.03
Female	-0.90
Hispanic	-0.23
Other Racial/Ethnic Group	-0.57
Time Between Pre- and Posttest	-0.01
Constant	3.82
R^2	0.18

*$p \leq .1$; **$p \leq .05$; ***$p \leq .01$

[40] The internship rate was standardized (M = 0, SD = 1).
[41] The internship rate was standardized (M = 0, SD = 1).

5.6 YAL Fall Session Outcomes

Due to the high and differential[42] rate of attrition between the summer and fall programs, a rigorous evaluation of the intermediate-term benefits of the internship program was not possible. The high attrition rate increases the likelihood that the sample of participants who were included in the intermediate -term evaluation is not representative of the overall sample of participants in the summer session.

In addition to the returning summer participants, 195 new participants enrolled in the fall YAL session for a total of 291 fall participants. Overall, the results of our analyses indicate that youth who participated in the fall session showed increases in their literacy and math skills. On average, participants improved their literacy skills by approximately one grade level (0.96 grade levels)[43] and their math skills by approximately 0.67 grade levels[44] over the course of the three month program. These beneficial results were generally consistent with summer reading and math gains. Although these results suggest that the YAL fall session was beneficial, it is important to note that there was no comparison group included in the fall evaluation. Therefore, the gains in participant's literacy and math skills cannot necessarily be attributed to the YAL program as alternative explanations are possible (e.g., students receiving other services that were not captured by the evaluation).

[42] The fall participants who did not have fall literacy data were older and had higher summer pretest scores. Those who did not have fall math data were older and were more likely to have participated in the internship program than the control group.
[43] $t_{107} = 6.58$, $p < .001$
[44] $t_{97} = 5.09$, $p < .001$

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5.7 Comparison of the YAL Program to the CEPS Program

To provide some context to the YAL program evaluation results, we compared the findings reported in this evaluation to findings reported in an evaluation of a similar program: the Community Education Pathways to Success (CEPS). To compare the effects of the CEPS program with the YAL program, we used the findings from the evaluation of the third year of the CEPS program (Campbell, 2008). Although an evaluation from the first year of implementation of CEPS would have provided a better comparison for the YAL program, which is in its first year of implementation, data from the first year of the CEPS program were not available. It is possible that the quality and effectiveness of the CEPS program may have improved over the course of the three years of implementation. This potential maturation of the program should be taken into account when interpreting comparisons of the two programs.

CEPS is a program created and run by the Youth Development Institute to assist out-of-school youth between the ages of 16 and 24, and with reading skills below the 8th grade level, in preparing for the GED (Campbell, Kibler, & Weisman, 2008). Like YAL, CEPS is primarily a literacy program, but includes some math instruction as well. Table 15 provides a comparison of the CEPS and YAL programs and participants.

Table 15. Comparison of CEPS and YAL Summer Program Participant Characteristics

	CEPS[a]	YAL Summer Program
Program Characteristics		
Target Age Group	16-24	16-24
Target Reading Level	< 8th Grade	4th-8th Grade
Number of Program Sites	10 CBOs	5 CBOs, 4 Libraries
Participant Characteristics[b]		
Number	442	183
Female	45%	43%
Male	55%	57%
African American	36%	47%
Latino	57%	39%
Other	7%	14%
Mean Age	19	20
Mean Initial Literacy Score	5.8	6.0
Mean Initial Math Score	5.1	5.0

[a]Source: Campbell et al., 2008
[b]The participant characteristics are based on the CEPS 2007/08 year and the YAL fall program

In the 2007-08 program year, CEPS participants improved their literacy skills by a mean of 1.5 grade levels over the course of 131 days (Campbell et al., 2008).[45] Although this gain is larger than the gain of one-half of a grade level made by the participants in the YAL program, it was over a longer period of time (testing in the YAL summer session covered a 64 day period). After adjusting for elapsed time, the literacy gains made by the participants in the two programs are relatively similar. The participants in the CEPS programs increased their scores by approximately 0.011 grade levels per day compared to 0.008

[45] The number of days is the total number of elapsed days, including holidays and weekends rather than the number of days of participation in the program.

grade levels per day for the YAL participants.[46]

In the CEPS program, the participants increased their math skills by a mean of 0.9 grade levels (Campbell et al., 2008); whereas in the YAL program, participants in the internship program improved their math scores by one grade level and those in the control programs did not show any improvement in their math skills. Again, these gains occurred over different periods of time. Participants in the CEPS program improved their math skills by approximately 0.009 grade levels per day, whereas the YAL internship program participants improved their math skill by approximately .016 grade levels per day.

Finally, the CEPS program had a retention rate of 54%[47] and the YAL program had retention rates of 91% and 79% for the treatment and control participants, respectively. However, the CEPS program had a longer duration, which makes it difficult to draw accurate comparisons between the retention rates of the two programs as we would expect retention rates to be higher in a shorter program. In the evaluation of the CEPS program, retention rates were calculated over the course of a mean of 129 days, whereas in this evaluation we considered students to have been retained in the program if they remained in the program over the course of the eight week summer session. Table 16 provides an overview of the literacy and math gains, and retention rates, of participants in the two programs.

Table 16. Comparison of CEPS and YAL Participant Outcomes

	CEPS[a] 07/8	YAL Summer Program		
		Over-all	Treat ment	Control
Literacy				
Mean Change in TABE Score	1.5	0.5	0.59	0.38
Days Between Pre- and Post-Testing	131	64	63	67
Mean Change per Day	0.011	0.008	0.009	0.006
Math				
Mean Change in TABE Score	0.9	0.6	1.0	-0.03
Days Between Pre- and Post-Testing	130	64	61	69
Mean Change per Day	0.009	0.007	0.016	0.000
Program Retention (%)	54	85	91	79

[a] Source: Campbell et al., 2008

5.8 Treatment Site Participants' Perceptions of Program Quality

Overall, the treatment participants indicated that that they were satisfied with the quality of the summer literacy program.[48] When asked why they enrolled in the YAL program, virtually all focus group respondents said that their primary motivation was to get a GED; a few expanded on this by saying they wanted to use this as a stepping stone to getting into college and/or to get a better job. There was a broad consensus at all treatment sites that the program provided a safe envi-

[46] Without access to CEPS program data we cannot determine if the differences between the two programs are statistically significant.

[47] The retention rate in the CEPS program was defined as the percentage of participants who either remained in the program long enough to take the TABE literacy test more than once in the 2007/08 year or graduated during that program year (Campbell et al., 2008).

[48] Focus groups were not conducted with control site participants.

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ronment in which to learn and that they felt comfortable with each other and got along well (a situation that several interviewees pointed out was in contrast to high school). Respondents commented on the value of what they were doing (both the classes and the internships). They appreciated the classes for a number of reasons, including that they liked the instructors—several felt the instructors understood them better than their high school teachers, that class work and assignments were more interesting and more relevant to their lives than high school, and that the instructors were "fun." A few even seemed to appreciate the fact that they couldn't get away with as much here as they had in high school, which these individuals perceived was because in high school, "no one cares."

A large majority of participants also clearly appreciated the internships. Even though the most common reason for enrolling in the YAL program was to get a GED, quite a few focus group respondents mentioned that the internships were the best part of the program. Several mentioned that they liked the fact that it was "a good way to get experience" to prepare for the workforce. In addition, participants commented on the value of specific skills they were learning, as well as the more general job preparation skills. Several participants explicitly commented that they appreciated or needed the pay, although it did not seem that this was their primary source of motivation. Quite a few mentioned that they valued the environment they were working in—such as opportunities for working outside or "getting out of the [city]."

6. Conclusion

The goal of the YAL program is to improve the literacy skills, math skills, and job readiness of disconnected youth. Taken together, the findings presented in this report indicate that the program is meeting these goals and having a positive impact on the participants it serves.

On average, participants in the YAL summer session increased their literacy skills by approximately one-half of a grade level over the eight week summer program.

Although program participants had overall gains in literacy in the summer session, there was no added short-term benefit to adding the internship component for participants' literacy scores. Participants in the internship sites did not have larger gains in literacy than the participants in control sites.

Regarding math achievement, the YAL summer program was associated with increases in participants' math skills. Over the course of the summer session, the math skills of the participants increased by approximately one-half of a grade; however, this increase was driven by participants who were in the treatment group. Participants in the internship component showed short-term improvements in their math skills of approximately one grade level whereas participants in the control group did not significantly improve their math skills over the course of the program.

Although the primary goal of the internship component was to provide participants with an additional way to improve their literacy skills, it is possible that the internships provided participants with more exposure to math activities. Several of the treatment sites provided direct opportunities for participants to apply their math skills in a real-world setting. For example, some participants assisted in data collection and data entry; while others participated in inventory and store management.

In addition to improving math and reading skills, another goal of the internship was to increase participants' attendance and retention in the literacy program. Our findings provide some evidence that the treatment met these goals during the summer session. We found that participants who were in the internship program had higher attendance rates than participants in the control group. In addition, we found that the internship had a positive impact on participant retention through the end of the summer session. Overall, 91% of the participants at the treatment sites stayed in the literacy program through the end of the summer, whereas 79% of the control participants stayed in the program for that same duration of time. This increase in attendance and retention may be due to several factors.

The higher rate of attendance could be because participants in the treatment group were required to attend a minimum of 75% of the classroom component in order to receive their weekly stipend. This provided participants with an extra incentive to attend classes. In addition, we found that high internship participation was associated with higher levels of literacy class attendance. It is possible that the more motivated participants (those who showed up to the classroom component) were also more likely to attend the internship component. Participants expressed that the internship gave them positive experiences and was their favorite part of the summer session. It is possible that because participants valued the internship, they were more likely to also attend the literacy classes.

Furthermore, interviews with program directors revealed that some treatment sites used somewhat different recruitment practices for the internship program. This could mean

that more motivated participants were recruited in the treatment sites as compared to the control sites. However, focus group and other data suggest factors beyond recruitment may be responsible for higher attendance among the internship participants.

Despite the positive effects of the internship component on participants' attendance over the course of the summer, there were no differences in the proportion of internship and control participants who returned to the program in September. This may suggest that the internship component has a positive impact on participants' attendance and retention while they participate but these effects may not persist once the internship ends.

It appears that the internship program had a positive impact on participants' math skills, as well as attendance and program retention, while they were participating in the program. Continuing the internship program throughout the year may help to retain participants for a longer period of time and increase literacy skills.

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CEO Response to Westat Literacy Evaluation Report

CEO launched its Young Adult Literacy initiative at 12 sites in July 2008 in partnership with the Department of Youth of Community Development (DYCD) and the Brooklyn, New York, and Queens public libraries in New York City. CEO created this initiative out of recognition of a service gap for disconnected youth who read at lower levels.

The Young Adult Literacy program offers instructional services to 18-24 year olds who read at the 4th to 8th grade level and serves them until they are academically ready to enter a GED program. The program services incorporate literacy and numeracy instruction, social support, and job readiness services. Sites are provided technical assistance and capacity building from the Youth Development Institute (YDI) in order to build strong instructional and support practices incorporating a youth development framework.

In the first year of operations, the program increased participant reading and math levels, yet CEO and other partners remained concerned about how to keep students engaged long enough to make the multiple gains needed to transition to GED programs. CEO was also concerned that many students would drop out over the summer months – a time when many disconnected youth programs face retention challenges as youth drop out to seek employment and other activities. Faced with this potential challenge, CEO decided to test whether adding paid internships, conditioned on continued participation in the educational services, could help maintain strong attendance while further contributing to the goal of preparing young adults for the workforce. To assess this approach, sites were randomly assigned to either provide the paid internship enhancement or the standard set of services.

This report by Westat documents that the Young Adult Literacy (YAL) initiative overall had positive outcomes in increasing participants' literacy and numeracy scores. In the summer session of 2009, which was only eight weeks in duration, participants improved both their literacy and numeracy scores by one half of a grade level. Additional analysis by Westat showed that in the subsequent 3-month fall session, participants gained a full grade level in literacy and 2/3

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grade level in math. While some participants in the YAL program may still be far from attaining their GED given their low starting levels, the program is clearly providing educational benefit.

By adding a paid internship component in the summer session at randomly selected sites and comparing participant scores to non-selected sites, Westat's evaluation found that while literacy scores were not higher than the comparison sites, the inclusion of internships led to higher math scores, better attendance, and higher retention in the internship sites. While there appeared to be differential gains by certain subgroups in the summer period, demographics such as race and gender did not persist as a factor in educational gains in the fall semester. CEO will continue to monitor performance over time to ensure the program serves all students equally well.

In addition to quantitative gains by participants over the summer, the report also used qualitative research to document the important benefits participants perceived for their lives and their understanding of the workplace. Having an internship positively affected participants' self-reported confidence, independence, and job readiness, and provided an opportunity for career exploration. Given the importance employers place on soft-skills such as teamwork, punctuality and communication, the internship component seemed to contribute significantly to this goal. Lastly, beyond the impact on the participants themselves, many of the internships also provided a community benefit. Participants organized recycling projects, cooked meals for seniors and the homeless, and conducted community needs assessments. Overall, students reported a high level of satisfaction with the program.

By providing a small stipend, the internships also reduced financial pressures on participants who otherwise might have been drawn out of the classroom during the summer, and helped to remove barriers to program participation. Participants stated, however, that their participation was not just financially motivated – students took pride and found value in their internship experience.

Given the population of disconnected young adults served in this program, attendance and retention are key issues, and a common challenge that all of CEO's disconnected youth programs face. The internship pilot clearly boosted attendance and seems to have tapped into young peoples' motivation and pride in work, as well as their need to earn. The program offered participants weekly stipends of $50 or $100 – depending on their level of engagement. This is a relatively low cost compared to other subsidized jobs programs. On average $580 per participant (spread over 8 weeks) resulted in fairly substantial attendance and academic gains.

The evaluation has already informed CEO's strategic planning and program operations. Westat recommends that the internship program be continued throughout the year to retain the positive impacts. Using a combination of public and private funding CEO is adding internship components to all literacy sites this year. Participants will now have the opportunity to participate in multiple cycles of internships over the course of the year (conditioned on classroom attendance), allowing them opportunities to reinforce their reading and math skills, for career exploration, work experience, and continued financial benefit. We hope to have the resources to maintain this important component.

CEO is also replicating this strategy of school-conditioned paid internships in a new young adult program we are launching with a federal Social Innovation Fund (SIF) grant. The grant supports replication of CEO's most promising anti-poverty programs in New York City and seven other urban areas around the country. This new funding will allow us to use this program's approach of school-conditioned paid internships in New York City, Kansas City (MO), and Newark. The program will serve a similar population – low-level readers age 18-24 and will provide a year-long program that provides education conditioned internships coupled with financial incentives for educational gains. We look forward to building additional evidence to support this work.

CEO will continue to evaluate the education and employment models supported by our office, and to learn more about optimal internship structures and cost effectiveness for the strategy. Further research will broaden understanding in the field of the best ways to combine education and employment to meet the needs of disconnected young adults.

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APPENDIX A. Detailed Description of Methodology & Data Analyses

Study Design and Randomization

In order to evaluate the impact of the addition of the internship component to the YAL program, we used a blocked-randomized design. The randomization process utilized the following blocking variables: 1) CEO's description of high or medium performance; and 2) the type of provider (library or CBO). Based on the blocking, the nine programs were divided into two groups. Each group contained equal numbers of high- and medium- performing sites as well as an equal number of CBOs and libraries. After dividing the programs into two groups, one group was randomly selected to be the treatment group. The fifth CBO was selected at random to become part of the treatment group, giving the treatment group five eligible sites and the control group the four remaining sites. This blocking ensured that there was a balance of CBOs and libraries, as well as high- and medium-performing sites in both treatment and control groups.

Although the random assignment of individuals is considered the strongest evaluation design, randomly assigning the sites to treatment and control conditions reduces potential threats to internal validity and enhances researchers' ability to make causal inferences. However, the small number of sites included in this evaluation limits the ability of the randomization process to ensure that groups are equal across the treatment and control conditions. Therefore, in addition to randomly assigning groups, we tested for initial equivalency of the treatment and control groups on a series of variables including the participants' age, educational attainment, and literacy and math skills, as well as the number of youth attending each site, using chi-square statistics and t-tests. If there are important differences between the treatment and control groups prior to program implementation, effects from the internship and from program differences could be difficult to disentangle. Therefore, all variables that indicated a statistically significant difference between the sites were identified and included as covariates in the data analysis.

Qualitative Data Collection

Researchers at Metis Associates conducted site visits to collect qualitative data. These site visits were conducted in between mid July and early August in order to maximize the amount of time the summer sessions had been operating before they were visited (the programs all started either June 29 or July 6, 2009). Data collection procedures included interviews with key informants, observations, and focus groups.

Key Informant Interviews

The evaluators conducted interviews of program staff from each of the nine participating sites.[49] Interviews were conducted with the program director and/or other key administrative staff as designated by the director. These interviews were used to collect information on existing retention strategies, instructional activities, staff, program data, and work readiness efforts. At the treatment sites, additional interview questions were added to collect information on the internship component and its effects on preparing participants for a job and on attendance and retention.

[49] For the omitted site operating over the summer, an interview with a key informant was conducted over the phone.

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Observations

One classroom observation was conducted at each of the nine participating treatment and control sites, generally lasting an hour. The class period observed was selected in an effort to provide an opportunity to document literacy and math instruction—literacy instruction was given priority when both subjects were not covered in a class period. Observation data included general field notes, which were standardized using a Classroom Observation Protocol. The observation protocol addressed instructional plans for the observed lesson, the physical environment, and the materials and technology used by the participants. Field notes were also used to complete a classroom climate scale.

Focus Groups

Focus groups of approximately 6 to 10 participants were held at each of the five treatment sites. All participants joined voluntarily. Adult participants were required to complete an Adult Consent Form, and participants under 18 were required to sign a Youth Agreement Form and have a parent or guardian complete a Parent Permission Form. The focus groups collected information on implementation, such as the extent to which participants felt supported by the program, the extent to which their literacy and math skills were reinforced, the extent to which their job readiness skills were reinforced, and the types of skills and benefits derived from the internship. Focus groups were audio-recorded if all participants agreed and signed a tape recording assent form.

Quantitative Data Collection

Program data, including demographic information, attendance, Test of Adult Basic Education (TABE) scores, and retention information were sent by each site to the evaluation team monthly.

Attendance and Retention

All sites tracked participants' attendance and provided these data to the evaluation team on a monthly basis. These data were used to calculate students' attendance rates and program retention. In addition, data were collected on the last date that participants attended the program and their reasons for leaving the program. These data were used to classify any participant who left the program prior to end of the internship component for any reason other than graduation as a dropout.[50]

Internship Component Attendance

Timesheets designed by the evaluation team were used to track participants' attendance in the internship component of the program. The forms were filled out and submitted to researchers on a weekly basis. These forms provided information on how many internship hours participants had attended for the week and the total possible hours they could have attended that week. In addition, these forms provided information on the amount of stipends received by the participants.

[50] The internship programs ended on either 8/20/09 or 8/28/09. Participants who stopped attending the program prior to 8/20/09 were considered dropouts.

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TABE Results

On a monthly basis, each site submitted available results of the Test of Adult Basic Education (TABE), an assessment used to measure the participants' literacy and math skills. The assessment is designed to assess participant progress toward reading, education, and job-related goals and can be used to predict success on the GED (McGraw Hill, 2009). Both the reading and the math tests assess basic skills in applied and academic contexts and are designed to be appropriate for adults. The TABE reading test measures prose and literacy, including reading diagrams, maps, charts, tables, forms and consumer labels (McGraw Hill, 2009). The math test measures practical mathematical skills and concepts found in professional and personal life experiences that reflect home life, shopping, banking, travel, transportation, entertainment, and work environments (McGraw Hill, 2009). The assessments provide percentiles, scale scores, and grade equivalent scores.

Participants were assessed by the program instructors prior to the start of the summer session and were assessed again at the end of the summer. There was some variation in when sites administered the test.[51,52]

The difference between participant pretest and posttest was used to determine their growth in literacy and math achievement over the course of the program.

Missing Data Analysis and Excluded Cases

Due to participant absences and attrition, not all participants were administered both TABE pre- and posttests. Overall, 46 participants were missing data on one or more variables used in the reading analyses, and 40 participants were missing data on one or more variables used in the math analyses. There were no statistically significant differences between participants who were excluded from analyses due to missing data and those that were included in the analyses. Additionally, the proportions of excluded participants were similar for treatment and control groups for both the reading and math analyses. Table 17 shows the number of participants excluded from the analyses due to missing data.

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[51] In some sites the TABE was administered monthly. In these cases the TABE results from the date closest to the start of the program were selected as the pretest score. Specifically, for participants who began the program on time, the assessment taken closest to the start of the program was designated the pretest. However, because some participants took the assessment well before the start of the program and others were assessed after the start of the program, only summer pretests between February 1, 2009, and July 10, 2009 were included. The wide range of pre-test dates was included to ensure a large enough sample size to detect differences between treatment and control participants. Although actual program attendance between pretest and the start of the summer program might have provided a more precise control for variations in program exposure prior to the summer session, attendance data prior to the start of the summer program were not consistently available. For participants who enrolled in the program after the start date, the most recent assessment taken prior to August, 1, 2009, was designated the pretest.

[52] One site did not administer a TABE test at the end of the 8-week summer program. This site has a program cycle which lasts for 16 weeks and ended in October. Participants were tested in October after 16 weeks of the program. This site was not included in analyses examining the impact of the summer program as their participants would have had access to twice as many literacy classes between pretest and posttest as the other sites. An additional site did not administer the TABE math pretest until the sixth week of the summer program. The math scores from this site was not included in the analyses because the change in the participants' math achievement is likely underestimated.

Table 17. Number of Participants Excluded from Analyses Due to Missing Data

Missing Data	Reading	Math
Overall	46	40
Treatment	23	28
Control	23	22

Internship Impact Analyses

We analyzed the short-term outcomes using either multi-level modeling techniques (i.e., hierarchical linear modeling or HLM) or ordinary least squares (OLS) regression to determine whether there was any difference in the literacy growth, math growth, and attendance of the youth who attended the internship sites and those who attended the control programs. We planned to use HLM to account for the nesting of participants within programs because OLS regression does not sufficiently account for the nesting of participants within a site. Because multiple participants exist within one site (violating the assumption of independent observations), it is likely that participants within one site are more similar to one another than if they were randomly selected. A multilevel modeling technique, such as HLM, must be used in order to account for this "sharing" of site between different participants (Bryk & Raudenbush, 1992).

To determine if outcome variables varied by site, a fully unconditional model with no predictors was first tested. This model is used to compute the intraclass correlation (ICC) which is a measure of the total variability in outcome variables (i.e. TABE Math growth, TABE Reading growth, and Attendance) that is attributed to site. If none of the variation is attributed to sites (ICC=0.00), then participant scores are independent observations and HLM is not necessary. In this case, regression analyses may be used.

The results of the HLM fully unconditional model for literacy indicated that the use of multilevel modeling for these data is unnecessary. The fully unconditional model yielded an ICC of .015, indicating that only 1.5% of the variation in TABE literacy posttest scores is attributed to the sites. Because such a small amount of the variation in scores is attributed to the sites, the participant scores were considered independent and multilevel modeling was unnecessary. Therefore, we used OLS regression to analyze the impact of the internship program on participants' literacy achievement.[53]

In contrast, the fully unconditional model for both the math and the attendance variables indicated that HLM was necessary for these data. Approximately 13.8% of the variance in participants' math achievement (ICC = .138) and 17.4% of the variance in attendance (ICC = .174) was attributed to the sites and that the use of multilevel modeling was needed. Therefore, we used HLM analyses to examine the impact of the addition of the internship component on participants' math achievement and program attendance. Both of these models were linear two-level models with participant and program site as the two levels.

[53] Some researchers suggest using HLM modeling even when a low ICC is found in part to guard against Type 1 errors (concluding there is significance when in reality effects are due to chance and not the intervention). However, given the low ICC and the lack of significance in the regression models, this is not a concern with these particular analyses.

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At the first level of each of the models, the dependent variable (i.e., math achievement growth or attendance rate) for participants within sites was predicted using a series of participant characteristics. These participant covariates were fixed across programs with no interactions. Participant level covariates included: (a) age, (b) gender, (c) race, and (d) the number of days between the pretest and posttest. These variables were included as covariates to control for any initial differences between the participants in the internship and control program. The categorical variables were dummy coded, and all variables were centered on the grand mean.

At level two, the intercept (representing the average achievement or average attendance rate) was modeled using a dummy variable indicating whether the program was an internship or control site was included at level two in order to detect the effects of the internship on the dependent variable.

Implementation and Internship Participation Analyses

To examine the impact of implementation fidelity on participants' literacy and math achievement and program attendance we planned to use HLM to account for the nesting of participants within groups. However, the results of the fully unconditional model for both literacy (ICC = .006) and math achievement (ICC = .015) indicated that multilevel modeling was unnecessary. Therefore, we used OLS regression to examine the association between internship attendance and participants' literacy and math growth.

On the other hand, the results of the HLM fully unconditional model for the analysis examining the impact of implementation fidelity on literacy program attendance indicated HLM was necessary for this analysis (ICC = .076). This model was a linear two-level model with participant and program site as the two levels.

At the first level the model, attendance rate for participants within treatment sites was predicted using a series of participant characteristics. These participant covariates were fixed across programs with no interactions. Participant level covariates included: (a) age, (b) gender, (c) race, (d) and the number of days between the pretest and posttest. The categorical variables were dummy coded, and all variables were centered on the grand mean. Percentage of possible internship hours attended was included as a random effect in the level one model as a predictor of participant achievement and attendance in the literacy classes.[54, 55]

At level two, the intercept (representing the average achievement or average attendance rate) was modeled using school level variables. The program-level variables include: (a) number of participants per site[56] and (b) average pretest TABE score[57] among the participants in the site.

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[54] To facilitate interpretation of the regression coefficients, the internship attendance rate was standardized (M = 0, SD = 1).

[55] All sites were expected to offer at least 12 hours of internship / group project weekly. Four of the five internship sites offered 12 hours and 1 offered 13 hours of internship / group project weekly. Percent of possible hours was used to standardize attendance across programs and because the variable of interest was fidelity to the program plan, not intensity (hours of attendance). However, because there was little difference in amount of hours offered, it is expected these estimates would be similar.

[56] At four of the internship sites, youth attended the program who did not participate in the internship component. These youth were not included in the analyses; however they were included in the program size variable.

[57] Achievement growth is the outcome variable, therefore individual participant's pre-test TABE scores are accounted for in the outcome variable and are therefore not included as a level 1 variable. However, average pre-test TABE scores at the site level are included in the level 2 model to account for any differences between program sites on initial TABE scores.

APPENDIX B. Detailed Program Description

Participant Applications and Recruitment

Typical recruitment strategies included posting fliers in the community and online, word-of-mouth and referrals, and intake procedures often included submitting application forms and TABE scores. Coordinators at three of the treatment sites reported that a more rigorous application and participant recruitment process was implemented during summer 2009 than had been used previously. For example, participants submitted writing samples and took part in an intake interview, and background information that could affect a participant's success in the program (such as information about their home circumstances and the last grade they attended) was also collected. These more selective recruitment and screening processes were not mentioned by control sites specifically in interviews.

Fostering Staff and Participant Connections

Many program staff and participants emphasized the importance of establishing a connection between staff and participants. Although approaches varied depending on the site, the overall goal across sites was similar—to create personal relationships that allow participants to feel comfortable and confident that they can achieve their goals.

One strategy to accomplish this included selecting staff based on how closely the candidate represented the target participants. Finding teachers who had experience relevant to working with disconnected youth was one of the most emphasized recruitment criteria when hiring staff. For example a coordinator from one site shared this view: "Most of these young adults who drop out of school do have some kind of problems, social problems, cultural problems that made them kind of not be able to fit into the regular school system so you definitely need an instructor/teacher who is going to be very sensitive to some of those problems that those participants face and to be able to deal with those issues and be able to connect to them."

Across all sites (treatment, control, and omitted) the YAL sites included a variety of strategies and activities designed to further strengthen staff/participant connections. At one treatment site, teachers attended YDI youth development workshops designed to help teachers teach disconnected youth, while at two others, staff held ongoing interviews with individual participants to foster connections and provide needed support. One site described its disciplinary approach as "a learning process and seeing a need to be less forceful and more about developing a personal relationship to better deal with a participant's issues more privately." Judging from comments of participants at the treatment sites, these strategies seemed to be effective.

One control site ensured that participants meet all program staff at orientation. Another site highlighted the benefits associated with small class size, emphasizing that it supports the relationship between teacher and participants by enabling teachers to get to know the participants more personally. A staff person from this site shared, "It's not just teaching them as just a group, you get to know their names and you get to relate to them. You begin to enjoy them and you identify with their issues, their problems. So you're not only a teacher, you are a counselor at the same time." At the omitted site, the program conducted participant conferences to discuss progress reports, and both participants and teachers wrote and shared personal reflections on the program.

When asked about the strategies that they used to retain participants enrolled in the program, nearly all of the sites mentioned that they offered participants social support services (a feature required by CEO). Although other sites may have offered these services, they were not mentioned during the interviews specifically. Virtually all of the sites mentioned that they had an on-site counselor, case manager, or youth advocate available on an ongoing basis to work with participants directly. Most sites also provided referral services so that if a need could not be met on site, participants were referred to other organizations within the community. At some treatment sites, these services were part of a comprehensive package offered to the local community. One site offered 1-hour group sessions twice a week focusing on crisis management/resolution and empowerment. Several treatment sites also offered on-site GED classes.

Among both treatment and control sites, some programs were age segregated to create a safer atmosphere for participants who might not feel comfortable in a mixed-age class, while others organized their classes based on social development or reading level rather than age.

Career and Job Training Opportunities

Overall, all sites had staff available to help participants transition into GED programs. Although they were not part of the YAL program per se, some of the sites offer comprehensive services supported through sponsoring organizations, which in several cases include GED classes that enabled participants to attend classes on-site. Other sites referred participants to local organizations that provide GED classes. Staff utilized to support participants in these efforts included job developers, a job placement department, counselors or case workers, a part-time instructor, and a workforce development unit.

Additional job/college readiness activities were also offered to participating participants at all sites, although they took on a variety of formats. At some sites, specific days and times were set aside for a job developer, case manager, or counselor to discuss topics such as career interests, how to get a job, and work-place etiquette. Workshops and training sessions were also offered at some sites to expose participants to "green" jobs, discuss money management, job training, computer access, resume writing, interviewing and networking skills, and learn about the steps involved in getting a career. Organizations such as New Heights Social Services agency, Concrete Safari, and the City's Workforce 1 Career Centers provided some of these training sessions. Other trainings were provided by the sites themselves.

One of the sites was working on a new job training program that was planned to start in September. Another site created a Job Club that was available to participants who actively seek employment. Participants were guided by a case manager who helped them explore training and/or job opportunities. Additional support at one site was provided through referrals to the New York State Office of Children and Family Services and outside counseling agencies.

One site sponsored a job networking day, where participants brought in their family and friends as guest speakers to talk about networking strategies, and visits to Co-op Tech alternative high school, which provides options for career and technical education. At two of the treatment sites, staff mentioned that some of the participants were not ready for these activities. In these cases, support focused more on literacy instruction than work readiness skills.

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Physical Environment of the Classrooms, and Materials and Technology Used by Participants During the Observation

At many of the observed sites, the sponsoring organization had to "make do" conducting classes in spaces that were adequate but were originally intended for other purposes and/or shared with other functions. For example, in about half of the sites, participants sat in arrangements, such as large conference tables or in one case, tiered, stadium style seating, that tended to limit the opportunity to arrange seats for small group activities. Nevertheless, in several of these cases instructors were observed to work around such limitations, for example by having participants work in pairs with the person sitting next to them.

The quantity and quality of physical resources available in the classroom also varied considerably from site to site. Some sites had a dedicated computer at each seat, or access to a computer lab, but other sites' classrooms had only one computer or none at all, although many of these may have had computer access at a separate location.

As a group, the treatment sites had a greater number and larger variety of books and other print material available in the room than control sites.[58] In the best cases, sites had shelves of reference books, text books, literature and magazines at various reading levels available in the classroom; at the other extreme, some sites had no print material stored in the classroom at all (although in almost every case, the instructor had brought reading materials in for the observed lesson). Treatment sites were also slightly richer than control sites in displays of participant work and content relevant materials. In most other ways, however, there were no discernible differences, on average, in the physical environments of treatment vs. control sites.

In addition to physical environment, observers also noted what kinds of materials were used during the lessons and how they were used. Even though quite a few sites had very limited print material stored in the classroom, all but one were observed to provide printed materials that were used during the observed lesson, for reading and/or discussion.[59]

At all observed lessons, sites most often had participants work with a different type of written material (literature, textbooks, or articles) during the observed lesson. Topics covered included for example, American history, physiology, and job satisfaction. Although the single observation conducted at each site cannot be interpreted as representative of the site's overall instructional approach, it is of interest that only one of the observed lessons (at a treatment site) involved each participant reading something different, based on interest and (to some extent) reading level. At most of the other treatment sites, the teacher read aloud while participants followed along silently, a practice recommended by YDI.

Classroom Environment

Characteristics of the classroom environments at the nine treatment and control sites were rated by observers using the *Classroom Climate* items in the observation protocol. Ratings were provided on

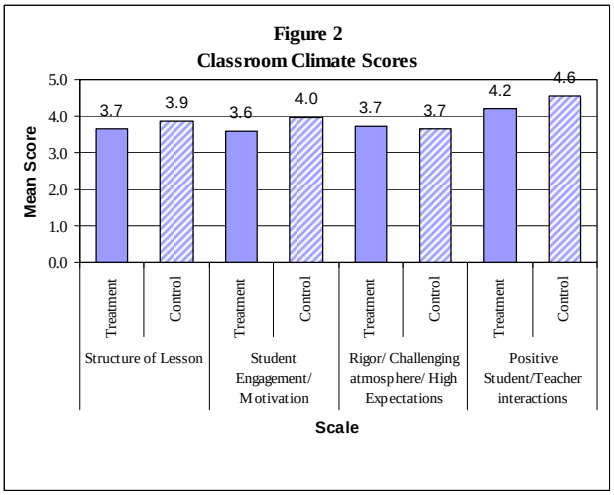
[58] Although it might be expected that library sites would tend to be richer in print resources than CBOs, this does not explain the overall differences observed, since there was actually a greater proportion of library sites among the controls than among treatment sties.

[59] At the site at which neither reading nor discussion of print materials took place during the observed lesson, participants were writing in their journals reflecting on the discussion.

a scale ranging from 1 (strongly disagree) to 5 (strongly agree), with 3 representing "neither agree nor disagree."[60]

It must be cautioned however that these results are based on only a single observation per site, which cannot be assumed to be representative of the class in general. This is even truer for some observations, depending on the nature of activities observed. For example, one of the items included in the *Participant Engagement & Motivation Scale* is, "Teacher encouraged participants to work collaboratively/ cooperate with each other." Although collaborative activity is a useful strategy for encouraging participant engagement, even a classroom with very strong participant engagement is likely to have participants working independently at least some of the time. Thus if the observed class happened to involve mostly independent work, this individual item would receive a lower rating, slightly lowering the overall *engagement* scale. Nevertheless, the validity of the ratings is greatly improved by the fact that they rely on aggregate scales that take into account multiple facets of each construct.

According to results of these aggregate *Classroom Climate* scales as shown in Figure 2, average ratings were moderately positive. Control sites had slightly higher ratings on 3 scales of Classroom climate: Structure of the lesson, Participant engagement, and Positive participant / teacher interaction. However these differences were relatively small and do not necessarily indicate true differences in classroom climate between treatment and control sites.



[60] As described in 2.2.c, Qualitative Analyses, for each observation, ratings for these 17 items were aggregated into four scales describing the quality of the structure of the lesson, degree of participant engagement and motivation, extent to which the lesson established an atmosphere of rigor and high expectations, and quality of the interactions between participants and the teacher.

Hiring Criteria for Teachers and Teachers' Experience and Background

Across all nine treatment and control sites, the priority mentioned by all organizations for recruiting instructors was that they should have experience working with young adult or adult populations, or other evidence that they understand such populations. Several sites emphasized the importance of personality traits like energy, charisma, and ability to relate to the population, and one site explicitly stated that "passion for the community" and an understanding of the population were most important. Other recruitment criteria that were mentioned included teaching experience and training in education—although one site pointed out that experience is more important than formal certifications, since adult literacy degrees are very rare. Among treatment sites, only one organization explicitly mentioned literacy or math experience as a recruitment priority, whereas most (although not all) of the control sites specifically required experience providing literacy instruction.

Nevertheless, all instructors did in fact have experience teaching English and/or literature, or had had a teaching position covering all subjects (although several had not yet received formal teacher certification). All instructors also had specific experience that would have helped prepare them for working with this population. Relevant experiences included working with adults or teaching adult basic education, training in urban education, and/or working with special education populations (which could help sensitize them to working with at-risk participants).

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