

Assessing the Impact of the Summer Youth Employment Program (SYEP) on Selected Youth Outcomes

Report to Youth Opportunities Unlimited

Report by the Center on Urban Poverty and Community Development
Case Western Reserve University

March 2020

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About the Center on Urban Poverty and Community Development

The Center on Urban Poverty and Community Development (the Poverty Center) works to inform public policy and program planning through data and analysis to address urban poverty, its causes, and its impact on communities and their residents.

Since our founding in 1988, our mission has broadened to understand and address poverty by delving into its human, social, and economic implications as experienced at the levels of the family and community.

About Youth Opportunities Unlimited (Y.O.U.)

Youth Opportunities Unlimited (Y.O.U.) is a nonprofit workforce development organization based in Cleveland, Ohio that serves teens and young adults ages 14-24 living in economically distressed areas in Northeast Ohio.

Y.O.U.'s programs and services are focused on ensuring these individuals are ready to pursue a path to economic self-sufficiency through mentoring, employability skills training, industry-based credential training, career exploration, jobs, and internships.

Since its founding in 1982, approximately 160,000 teens and young adults have obtained a job or internship through Y.O.U., earning about \$60 million in salaries and stipends.

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Abstract

Background: Youth jobs have the potential to disrupt cycles of youth violence and lead to better outcomes with regards to school engagement, other employment, and positive youth development. Youth Opportunities Unlimited (Y.O.U) is a non-profit workforce development organization serving youth living in economically distressed circumstances in the Cleveland area. Y.O.U administers a Summer Youth Employment Program (SYEP) and, in addition, some SYEP participants also benefit from a year-round affiliation with a community partner agency. The SYEP provides work experiences intended to serve as a building block for future employment opportunities and financial literacy. This analysis evaluates the impact of the SYEP and the SYEP + community partner affiliation programs by comparing youth that participate in with similar youth that were not selected for participation.

Method: Individuals applying for summer jobs through Y.O.U's Summer Youth Employment Project (SYEP) from 2014-2017 were matched to administrative data to examine juvenile justice, incarceration and educational outcomes in the one and two-years following application. Propensity score matching techniques were used to identify treatment and comparison groups from the applicant pools. This "average treatment effect on the treated" approach compares outcomes for the treatment group--those applicants who completed employment programming—to a comparison group made up of similar individuals who applied but were not selected.

Results: Treatment group participants in both the SYEP and SYEP + community partner affiliation samples are less likely to have a delinquency filing in the 2 years after placement and are less likely to be incarcerated in the jail system in the 2 years after the placement than are individuals in the matched comparison groups. In addition, treatment group youth compared to matched comparison youth have better school attendance in the academic year following summer application and are more likely to graduate from high school. The SYEP + community partner affiliation participants are also more likely to matriculate in college than comparison youth.

Introduction

Y.O.U. (Youth Opportunities Unlimited) is a workforce development non-profit organization serving youth living in economically distressed circumstances in the Cleveland area. Among other education and employment programming, this analysis focuses specifically on Summer Youth Employment Programming (SYEP) and also looks specifically at a subset of SYEP youth affiliated with a community partner agency throughout the school-year. These work experience opportunities are intended to serve as building blocks for future employment opportunities and financial literacy.

The SYEP program has paid employment opportunities for youth aged 14-24 with employers throughout the Cleveland area. During the 2014-2017 period, the summer program offered 25 hours/week of employment for 6 weeks throughout the summer. Youth applied and were selected through a lottery to be invited to participate. Invited youth then went through a validation process and those successfully validated were offered summer jobs.

The community partner affiliation is intended to augment the summer work experience by also providing youth with consistent adult mentor support throughout the year to provide stability and help to remove barriers. Y.O.U partners with over 40 community agencies throughout the city for this program. Each community partner agency has a fair amount of flexibility with respect to how to support youth throughout the year. Some are quite immersive, while others provide a “lighter touch” intervention which may include a weekly rec center meet-up with a supportive adult. Community partner-affiliated youth applying for SYEP bypass the lottery and are invited to SYEP automatically. Not all are hired, they still need to go through the validation process.

In 2016, the Center on Urban Poverty and Community Development (Poverty Center) examined the relationship between youth unemployment rates and violence in Cleveland neighborhoods. By linking five years of data at the census tract-level, the study mapped the number of teens that were not working or in school in relation to youth’s involvement in violent delinquent acts according to court records. The patterns showed that neighborhoods in which youth have trouble getting jobs and staying in school may be breeding grounds for youth violence and youth exposed to violence may be more likely to not attend school or not be employed. Summer youth jobs have the potential to disrupt this cycle and lead to better outcomes with regards to school engagement, other employment, and positive youth development.

The present study goes beyond these ecological correlations to examine whether Y.O.U’s SYEP and SYEP + community partner affiliation programming for youth in Cleveland has an impact on criminal justice and educational outcomes for participating youth. Using a quasi-experimental design comparing youth that completed programming (i.e. treatment groups) with matched comparison groups of youth who applied but were not selected for programming, outcomes are evaluated.

SYEP

When investigating the impact of summer youth employment (SYEP), we find statistically significant differences between the treatment and comparison groups on a number of key outcomes favoring the treatment group. Those completing the SYEP program were less likely to have a delinquency filing or to be incarcerated in the two years following participation, and they had higher school attendance and graduation rates than youth in the matched comparison group. The likelihood of college matriculation within the two years following graduation was not statistically different between the two study groups.

SYEP + Community Partner Affiliation

We find that community partner affiliated youth participating in SYEP were also less likely to be charged with a delinquency offense in the one-and-two years following summer application, and were less likely to be incarcerated in the adult system than similar youth that applied for SYEP and were not selected to participate. School attendance was higher for community partner affiliated youth. Finally, CMSD-enrolled community partner affiliated youth were more likely to both graduate from high school and matriculate in college than the comparison group.

Background Literature

The bulk of the literature on youth employment focuses upon the impacts of employment throughout the year on key youth outcomes. Research emphasis upon the impact of summer youth employment is more recent.

Impact of SYEP on Educational and Criminal Justice Outcomes

Within the last six years, a few studies have looked specifically at the impact of SYEP on key criminal justice and educational outcomes. Some results are quite promising, but findings are mixed likely due to a wide amount of variation across cities in program design and implementation (Ross, 2018).

Recent studies find that SYEP participants are less likely to be arrested for violent crime in the short-term, but mixed results are evident when looking at the longer-term as well as the incidence of property crime. In particular, a 2014 study evaluated an SYEP in Chicago using a randomized control trial (RCT) design. The study found that assignment to the summer jobs program reduced the incidence of violent crime arrests by 43 percent over 16 months when comparing the treatment to the control group (Heller, 2014). An extension of the same study finds, however, that although violent crime decreases for the treatment group, it does so without improving other outcomes related to schooling and employment that would improve the youth's chances of future labor market success. The study also finds that the treatment group is more likely to commit property offenses in the years following program participation than are those in the control group (Davis and Heller, 2017).

An SYEP evaluation in Boston also used an RCT and found similar reductions in violent crime among the treatment group--35 percent reduction in the 17-months post-participation (Modestino, 2019). A 2015 study evaluated incarceration outcomes among those involved in an SYEP lottery in New York City. SYEP participation decreased the probability of incarceration by 0.098 percentage points (a 9.93 percent reduction) among the treatment group compared to those in the control group (Gelber, Isen, & Kessler, 2015).

The summer youth employment literature documenting impacts on school attendance in the time following placement is relatively limited with mixed results. One 2014 study evaluating the impacts of SYEP in New York City found that participation in SYEP resulted in small increases in attendance in the academic year following participation—1-2 percent (on average; 2-3 days) with greater gains in attendance for those at highest risk—3 percent (on average; 4-5 days) (Leos-Urbel, 2014). Another study, however, finds no statistically significant effect of SYEP on attendance and re-enrollment (Donald & Heller, 2017).

The literature documenting impacts on high school graduation and college matriculation are limited with mixed results. One study of SYEP impacts on college matriculation finds no impact on college matriculation (Gelber et al., 2015). A thorough search of the literature revealed no studies looking specifically at the effect of SYEP on the likelihood of high school graduation, although a number of studies focus on academic performance. An evaluation of the New York City SYEP randomized lottery finds that students who participate in SYEP take more exams, they pass more exams and they have higher average scores than their counterparts not assigned to SYEP (Schwartz, et al, 2015). Another study finds no statistically significant difference between treatment and control groups in GPA in the post-assignment period (Donald & Heller, 2017).

The present study builds upon this previous research and examines what patterns are evident in Cleveland for the Y.O.U. SYEP and SYEP + community partner affiliation programs. The incidence of delinquency filings and incarceration are examined in addition to school attendance in the period following program application. This analysis also begins to explore school performance by examining the likelihood of high school graduation and college matriculation among the Y.O.U. samples.

Research Questions

Based on previous literature, we hypothesize that engagement in SYEP has the potential to improve both criminal justice and educational outcomes for participating youth. A year-round affiliation with additional support, we suspect will result in even more positive outcomes for youth. To test these hypotheses with a sample of youth in Cleveland, we measure juvenile justice, incarceration and educational outcomes in the immediate years following summer youth employment (SYEP) and SYEP plus community partner affiliation for groups of youth that completed the programming (i.e. treatment groups) to comparison groups of similar youth (based upon available data on baseline characteristics) who applied for SYEP but were not selected to participate. The following research questions are addressed:

Impact of SYEP:

Juvenile Delinquency and Incarceration:

- **RQ1:** What is the effect of the Y.O.U. SYEP on juvenile delinquency filings in the 1-2 years following job placement?

- **RQ2:** What is the effect of the Y.O.U. SYEP on county jail incarceration in the 1-2 years post placement for those who turn 18 in the post- job placement period?

Educational Outcomes:

- **RQ3:** What is the effect of the Y.O.U. SYEP on school attendance in the academic year following job placement?
- **RQ4:** What is the effect of the Y.O.U. SYEP participation on high school graduation and college matriculation for applicable Cleveland Metropolitan School District (CMSD) students?

Impact of SYEP + Community Partner Affiliation

Juvenile Delinquency and Incarceration:

- **RQ5:** What is the effect of the Y.O.U. SYEP + community partner affiliation on juvenile delinquency filings in the 1-2 years following job placement?
- **RQ6:** What is the effect of the Y.O.U. SYEP + community partner affiliation on county jail incarceration in the 1-2 years post placement for those who turn 18 in the post- job placement period?

Educational Outcomes:

- **RQ7:** What is the effect of the Y.O.U. SYEP + community partner affiliation on school attendance in the academic year following job placement?
- **RQ8:** What is the effect of the Y.O.U. SYEP + community partner affiliation on high school graduation and college matriculation for applicable CMSD students?

Research Methods

Study Design

Impact of SYEP

This study uses a matched treatment and comparison group design to examine the impact of SYEP completion for Cleveland youth. The groups are compared on their juvenile justice involvement, incarceration and educational outcomes in the subsequent years. For the “Impact of SYEP” analysis, the treatment group includes youth that were selected for SYEP and completed the program. The comparison group is drawn from the pool of youth that applied for SYEP and were not selected, but are otherwise similar to the treatment group on baseline characteristics.

This design was chosen because SYEP receives many more applications each summer than there are available slots. Although SYEP generally selects participants randomly from this applicant pool, there are a number of practical considerations (including the validation process) that may result in departure from pure random assignment. An initial examination found differences in

the baseline characteristics of the participant and non-selected pools, which suggested that randomization could not be assumed. (See Appendix A for details).

In the absence of a randomized design,¹ researchers modeled selection into treatment using a propensity score technique to estimate causal effects in an observational context. This powerful approach involves identifying a sub-group of non-selected applicants most similar to the treatment youth on a number of pre-treatment individual, family and neighborhood-level covariates. A propensity score is calculated based on the covariates, and individuals in the treatment groups are matched to the individuals in the comparison group with most similar propensity scores. This particular approach is referred to as “nearest neighbor” matching (Lanza, Moore, & Butera, 2013).

The pre-treatment covariates used to create the matched samples included variables such as race/ethnicity, gender, level of education, age, birth characteristics, age and education of mother, history of child welfare involvement, public assistance usage, previous delinquency filings, SYEP application year, residency, and census tract-level distress were used to calculate propensity scores. The extent to which the matched groups are balanced on these covariates is then assessed. Appendix B (Tables B1-B4; Figures B1-B4) details sample balance throughout the analysis.²

Following matching, the researchers employed a quasi-experimental, between-groups analysis to estimate:

- the odds of a delinquency filing in the 2 years following application;
- the odds of County jail incarceration in the 2 years following application;
- the high school attendance rate in the year following application; and
- the odds of high school graduation and college matriculation in the 3 years following application for those beginning 11th grade in the academic year following SYEP and in the two years following application for those beginning 12th grade in the academic year following SYEP

Impact of SYEP + Community Partner Affiliation

For the “Impact of SYEP + Community Partner Affiliation” analysis, the treatment group includes youth that were affiliated with a Y.O.U. community partner agency and were recommended by that agency to apply for SYEP. Community partner affiliation youth that apply and are recommended by the agency bypass the traditional “random selection” lottery that other SYEP

¹ An assessment of baseline comparability of the applicant groups (selected, not-selected) was conducted using observable data from the CHILD System. The groups were deemed not comparable on key variables at baseline (See Appendix A for a discussion of baseline comparability).

² The matched samples (“M”) reveal that differences between groups on observable covariates are no longer statistically significant at conventional levels, when they may have been statistically significant for the “un-matched” sample (“U”)

applicants are subject to and are instead invited automatically to participate should they complete all of the necessary components of the hiring validation process.

The comparison group is drawn from the pool of youth that applied for SYEP and were not selected, but are otherwise similar to the treatment group on baseline characteristics.

As described above, selection for participation in SYEP for those affiliated with a community partner agency is not random. In an effort to approximate randomization, researchers modeled selection into treatment using a propensity score technique to estimate causal effects in an observational context. Pre-treatment covariates were used to create the matched samples including variables such as race/ethnicity, gender, level of education, age, birth characteristics, age and education of mother, history of child welfare involvement, public assistance usage, previous delinquency filings, SYEP application year, residency, and census tract-level distress were used to calculate propensity scores. The extent to which the matched groups are balanced on these covariates is then assessed. Appendix C (Tables C1-C4; Figures C1-C4) details sample balance throughout the analysis.

Despite these efforts to create comparable groups, there are likely unmeasured and unobserved potential differences between the comparison and SYEP + community partner affiliation groups that could be both correlated with one's likelihood of affiliating with a community partner agency, an agency's willingness to recommend an affiliate to SYEP and one's educational and criminal justice outcomes. As a result, matching becomes less plausible as it is much more likely that unobserved systematic differences are not evenly distributed across groups. Findings can be interpreted with caution as a result.

For the SYEP community partner affiliated youth analysis, again, researchers employed a quasi-experimental, between-groups analysis to estimate:

- the odds of a delinquency filing in the 2 years following application;
- the odds of County jail incarceration in the 2 years following application;
- the high school attendance rate in the year following application; and
- the odds of high school graduation and college matriculation in the 3 years following application for those beginning 11th grade in the academic year following SYEP and in the two years following application for those beginning 12th grade in the academic year following SYEP

Samples and Data Sources

Y.O.U. provided the Poverty Center with application records for the SYEP (which also indicated community partner affiliation) over the 2014-2018 period (n=25,880). The program typically selects as many as 3,000 applicants from the pool for placement in summer jobs each year based on available funding and, on average, 1,590 enroll in the program each summer. Among those community partner affiliated youth, an average of 1,014 are enrolled in SYEP each year. For both sets of analyses (Impact of SYEP and Impact of SYEP + community partner affiliation), applicant records were matched to a number of relevant administrative data housed in the

Child Household Integrated Longitudinal Data (CHILD) System at the Poverty Center. This secure data system, operated under Institutional Review Board protocols, contains identifiable linked records on children born in Cuyahoga County starting in 1989. Details regarding these data sources and variables are provided in Table 1.

Table 1. Study Variables, Data Sources and Measures

Concept	Measure	Source
Outcomes		
Juvenile delinquency	Number of delinquency filings (type: violence, drug, property, other)	J
Incarceration	County jail incarceration (Yes=1)	I
Educational outcomes	Attendance rate in school year (0-100)	E1, E3
	High school graduation (Yes=1)	E2, E3
	College matriculation (Yes=1)	E2, E3
SYEP		
	Selected or not (Selected=1)	Y
	Completed SYEP program (Completion: Yes=1)	Y
	Year of program participation (2014 - 2018)	Y
Matching variables		
Individual characteristics		
Gender	Female (Yes=1)	E1, S
Race/ethnicity	African American (Yes=1), White (Yes=1), Hispanic or other (Yes=1)	E1, S
Age	Age at program participation (Years)	E1, S, Y
Education level	High school student (or less) at participation (Yes=1)	E1, Y
Cleveland resident	Youth living in Cleveland at program participation (Yes=1)	Y
Premature birth	Gestational age <37 weeks (Yes=1)	S
Low birth weight	Less than 2,500 grams (Yes=1)	S
Family characteristics		
Teen mother	Mother's age 10-19 at child birth (Yes=1)	S
Mother's education	Mothers with high school degree at child birth (Yes=1)	S
Poverty status	SNAP >50% of life time (Yes=1)	C2
Child welfare involvement		
Child maltreatment	Any report of neglect/abuse investigation (Yes=1)	C1
Foster care placement	Any foster care placement (Yes=1)	C1
Neighborhood (Census tract)		
Poverty	Percent of individuals below the poverty line	N
Unemployment	Percent of unemployed	N
Racial segregation	Percent of African American population	N

Sources

- J: Cuyahoga County Juvenile Court
- I: Cuyahoga County Jail Inmate data
- E1: Public Urban and inner ring suburban school districts in the county: Berea, Brooklyn, Bedford, Cleveland, Cleveland Heights, East Cleveland, Garfield Heights, Lakewood, Maple Heights, Richmond Heights, South Euclid/Lyndhurst, and Warrensville Heights
- E2: Cleveland Metropolitan School District (CMSD)
- E3: Ohio Longitudinal Data Archive – Ohio Department of Education Records
- Y: Youth Opportunities Unlimited (Y.O.U)
- C1: Cuyahoga County Division of Children and Family Services (CCDCFS)
- C2: Cuyahoga County Job and Family Services (CCJFS)
- N: American Community Survey (ACS)-5 year estimates (www.census.gov)
- S: Ohio Department of Health (ODH) **This should not be considered an endorsement of this study or these conclusions by the ODH.*

For each of the research questions the treatment and comparison samples were identified using propensity score matching techniques. The samples were restricted to youth that could be observed for the length of time required for each outcome and/or were observable in the outcome data source due to geographic location and/or age.

Impact of SYEP

The treatment group matched sample is comprised of youth that were selected for SYEP and completed the program (n=3,184). To be classified as a “completer” an SYEP participant needed to have been present on the job for at least 2/3 of the program days. Those that were fired were not classified as “completers”. The comparison group matched sample is drawn from those who applied for SYEP but were not selected to participate (n=16,150).³

Impact of SYEP + Community Partner Affiliation

The treatment group matched sample is comprised of youth that were selected for SYEP based upon a recommendation from the community partner agency and who then completed the program (n=1,903). To be classified as a program “completer” an SYEP participant needed to have been present on the job for at least 2/3 of the program days. Those that were fired were not classified as “completers”.⁴ The comparison group matched sample is drawn from those who applied for SYEP but were not selected to participate (n=16,150).

³ There were also many selected for SYEP that did not complete the program. They were either never hired (n=6,155), or they were hired and deemed “unsuccessful” due to not completing the requisite participation (2/3 of program days) or for being fired from the job (n=391). The current report does not include these applicants in the analysis. Future analyses could explore outcomes for these subgroups.

⁴ Occasionally SYEP participants begin work later in the summer and are not able to complete the full 2/3rd of days. For those youth, they are classified as a “completer” if they worked the final pay period of the summer. In addition, youth who quit their jobs are not classified as “completers” unless they are quitting for medical reason or another qualified reason by Y.O.U

Results

Impact of SYEP

Juvenile Delinquency and Incarceration:

- o **RQ1:** What is the effect of the Y.O.U. SYEP on juvenile delinquency filings in the 1-2 years following job placement?
- o **RQ2:** What is the effect of the Y.O.U. SYEP on county jail incarceration in the 1-2 years post placement for those who turn 18 in the post- job placement period?

To investigate the effect of Y.O.U. SYEP on juvenile delinquency filings in the 1-2-year period post-application, the sample was restricted to only those for whom a 2-year observation window post-placement summer was possible. The sample includes SYEP applicants during the 2014-2016 summers who were between the ages of 14 and 16 during the placement summer.

The delinquency filings data were grouped into the following categories: all types, violent, drug related, property and other. Propensity score adjusted estimates reflecting the effect of SYEP on the odds of ever having a delinquency filing and the average number of filings by crime type in the 1-and-2 years post program placement are presented in Table 2.

Participation in SYEP reduced the odds of a delinquency filing in the two years following summer employment. Among all types of delinquency filings in the one-year following employment, 7 percent of SYEP youth had a delinquency filing compared to 9 percent of similar youth applicants not selected for SYEP participation. This difference is statistically significant. When looking at the likelihood by type of filing, we find that the difference between the treatment and comparison group is statistically significant for violent, drug and “other” types of filings and the difference in the likelihood of a filing consistently favors the treatment group.

Following the same youth for another year after the application summer, we find that those SYEP participating youth are still less likely to have a delinquency filing (10% compared with 14%)—and the gap between the two groups is larger as the window of observation extends. This two-year difference in the odds of a filing is also statistically significant. When looking at the likelihood by type of filing, we find that the difference between the treatment and comparison group is statistically significant for drug, property and “other” types of filings and the difference in the likelihood of a filing consistently favors the treatment group. The difference between groups with respect to the odds of a filing for a violent offense is no longer statistically significant in the two years following the application summer.

Table 2. Delinquency Filings -SYEP

Average Treatment Effects on the Treated (ATET): PSM using 1:1 nearest neighborhood with replacement					
	Treated (n=1,454)	Comparison (n=1,208)	Difference	AI Robust S.E.	p- value
Delinquency filing (ever) within 1-year period (proportion)					
All types	0.07	0.09	-0.02*	0.01	0.03
Violence	0.03	0.05	-0.02*	0.01	0.02
Drug	0.00	0.01	-0.01*	0.00	0.02
Property	0.03	0.04	-0.01	0.01	0.64
Other	0.02	0.03	-0.01*	0.01	0.04
Delinquency filing (ever) within 2-year period (proportion)					
All types	0.10	0.14	-0.04*	0.02	0.02
Violence	0.06	0.07	-0.02	0.01	0.12
Drug	0.00	0.01	-0.01*	0.00	0.01
Property	0.05	0.08	-0.02*	0.01	0.02
Other	0.03	0.06	-0.03*	0.01	0.00

Notes: * indicates differences that are statistically significant.; Treatment group are made up of a matched sample from those that were selected & completed SYEP. The comparison group are made up of a matched sample of applicants not selected to participate in SYEP.; Applicants from 2014-2016 were included in the sample to ensure that 2-year follow-up in the juvenile court records through June 2018 was possible.; The sample includes applicants between the ages of 14 and 16 at the time of SYEP application.; Applicant data supplied by Y.O.U.; Delinquency filing data from Cuyahoga County Juvenile Court administrative records.

To investigate the effect of Y.O.U. SYEP on incarceration events in the 1-2-year period post-application, the sample was restricted to only those applicants for whom a 2-year observation window post-placement summer was possible in the administrative data. Further, the sample was restricted to include only those applicants that were 17 years of age or older during the placement summer (i.e. those that would have turned 18 during the follow-up period).

As indicated in Table 3, treatment group participants were less likely than the comparison group to be incarcerated in the county jail system in the one and two-year period following placement. In the one-year follow-up period, 9 percent of the comparison group had been incarcerated compared to only 3 percent of the treatment group. This difference is statistically significant at conventional levels. The same pattern holds when looking at the 2-year follow-up period—13 percent of the comparison group had been incarcerated compared to 8 percent of the treatment group. This difference is also statistically significant at conventional levels.

Table 3. Incarceration -SYEP

Average Treatment Effects on the Treated (ATET): PSM using 1:1 nearest neighborhood with replacement					
	Treated (n=494)	Comparison (n=386)	Difference	AI Robust S.E.	p- value
Incarceration (ever) within 1-year period (proportion)	0.03	0.09	-0.05*	0.02	0.00
Incarceration (ever) within 2-year period (proportion)	0.08	0.13	-0.05*	0.04	0.04

*Notes: * indicates differences that are statistically significant.; Treatment group are made up of a matched sample from those that were selected & completed SYEP. The comparison group are made up of a matched sample of applicants not selected to participate in SYEP.; Applicants from 2014-2015 were included in the sample to ensure that 2-year follow-up in the County jail records through December 2017 was possible.; The sample includes applicants between the ages 17+ the time of SYEP application.; Applicant data supplied by Y.O.U.; Incarceration event data from Cuyahoga County Jail administrative records.*

Educational Outcomes:

- o **RQ3:** What is the effect of the Y.O.U. SYEP on school attendance in the academic year following job placement?
- o **RQ4:** What is the effect of the Y.O.U. SYEP participation on high school graduation and college matriculation for applicable CMSD students?

To investigate the effect of Y.O.U. SYEP on school attendance in the academic year following SYEP application, the matched samples include those applicants throughout 2014-2017 enrolled in public high schools (9th, 10th, and 11th graders) in the academic year prior to placement. Attendance rate data in for the academic year following assignment (days attended/total membership days) was used as the primary outcome measure.

As indicated in Table 4, those in the treatment group had higher rates of school attendance in the academic year following their SYEP participation compared to those in the matched comparison group. On average, SYEP completers attended school 87 percent of possible days compared to the comparison group who attended school an average of 85 percent of possible days. This difference is statistically significant at conventional levels. To test the robustness of this finding, the log of the attendance rate was also used as the outcome variable in an effort to account for the fact that attendance rates are not normally distributed and are right-skewed. Under this more conservative estimate, the difference between groups is still statistically significant and favors the treatment group.

If a student is absent for 10 percent of more of eligible school days they are deemed “chronically absent” in the state of Ohio.⁵ Chronic absenteeism is associated with lower academic performance and lower graduation rates. To better understand whether SYEP participation impacts the likelihood of chronic absenteeism in the school year after

⁵ <http://education.ohio.gov/Topics/Student-Supports/Chronic-Absenteeism>

participation, we calculated the number of youth in each study group that had attendance rates less than 90 percent and report findings in table 4. Although youth in the treatment group are less likely to be chronically absent in the year following application, the difference between groups is not statistically significant.

Table 4. School Attendance - SYEP

Average Treatment Effects on the Treated (ATET): PSM using 1:1 nearest neighborhood with replacement					
	Treated (n=1,010)	Comparison (n=809)	Difference	AI Robust S.E.	p- value
Attendance rate for 1-year period after SYEP (%)	87.08	85.23	1.86*	0.76	0.02
Log (Attendance rate) for 1-year period after SYEP	4.45	4.42	0.03*	0.01	0.01
Attendance rate < 90% for 1-year period after SYEP (%)	45.30	47.90	-2.6	0.02	0.28

*Notes: * indicates differences that are statistically significant.; Treatment group are made up of a matched sample from those that were selected & completed SYEP. The comparison group are made up of a matched sample of applicants not selected to participate in SYEP.; Applicants from 2014-2017 enrolled in 9th-11th grade in the previous academic year were included in the sample to ensure that 1-year follow-up in the public school attendance records was possible through the 2017-2018 school year; Applicant data supplied by Y.O.U.; Public school attendance records housed in the CHILD System from the following school districts: Berea, Brooklyn, Bedford, Cleveland, Cleveland Heights, East Cleveland, Garfield Heights, Lakewood, Maple Heights, Richmond Heights, South Euclid/Lyndhurst, and Warrensville Heights. In addition, records for students in the sample were matched to Ohio Longitudinal Data Archive.*

Graduation and college matriculation data were available for those Y.O.U. SYEP applicants that could be matched to the CMSD administrative records. Those students who applied for SYEP during the 2014 and 2015 that were eligible for graduation within the follow-up period were included. The administrative data contains student-level flags for graduation as well as details about college matriculation for graduated students (See Table 1 for further detail.)

Table 5 displays the graduation and college matriculation findings for CMSD Y.O.U. SYEP applicants. Nearly seventy-eight percent of the treatment group graduated from high school compared to nearly sixty-six percent of the comparison group. This difference is statistically significant at conventional levels.

Although the estimated difference in the share of eligible students matriculating to college is higher among the treatment group (37 percent compared to 30 percent), the difference is not statistically significant at conventional levels.

Table 5. High School Graduation and College Matriculation - SYEP

Average Treatment Effects on the Treated (ATET): PSM using 1:1 nearest neighborhood with replacement					
	Treated (n=301)	Comparison (n=232)	Difference	AI Robust S.E.	p- value
High School Graduation (%)	77.70	65.80	11.9*	0.04	0.01
College Matriculation (%)	37.20	30.60	6.6	0.04	0.12

Notes: * indicates differences that are statistically significant.; Treatment group are made up of a matched sample from those that were selected & completed SYEP. The comparison group are made up of a matched sample of applicants not selected to participate in SYEP.; Applicants from 2014 and 2015 grade-eligible for graduation and college matriculation within follow-up period were included; Applicant data supplied by Y.O.U.; Public school graduation and college matriculation data supplied by CMSD and the Ohio Longitudinal Data Archive.

Impact of Community Partner Affiliation

Juvenile Delinquency and Incarceration:

- o **RQ5:** What is the effect of the Y.O.U. SYEP + community partner affiliation on juvenile delinquency filings in the 1-2 years following job placement?
- o **RQ6:** What is the effect of the Y.O.U. SYEP + community partner affiliation on county jail incarceration in the 1-2 years post placement for those who turn 18 in the post- job placement period?

To investigate the effect of Y.O.U. SYEP + community partner affiliation on juvenile delinquency filings in the 1-2-year period post-application, the sample was restricted to only those for whom a 2-year observation window post-SYEP-placement summer was possible and propensity score matching techniques were employed to construct comparable groups. The treatment sample includes community partner affiliated youth during the 2014-2016 summers who were between the ages of 14 and 16 during the placement summer. The comparison sample includes 2014-2016 SYEP applicants who were not selected to participate.

The delinquency filings data were grouped into the following categories: all types, violent, drug related, property and other. Propensity score adjusted estimates reflecting the effect of community-partner employment on the odds of ever having a delinquency filing and the average number of filings by crime type in the 1-and-2 years post program placement are presented in Table 6.

Participation in SYEP + community partner affiliation reduced the odds of a delinquency filing in the two years following summer employment. Among all types of delinquency filings in the one-year following employment, 5 percent of SYEP + community partner affiliated youth had a delinquency filing compared to 8 percent of similar youth applicants not selected. This difference is statistically significant. When looking at the likelihood by type of filing, we find

that the difference between the treatment and comparison group is driven primarily by filings for violent offenses. Differences between the treatment and comparison groups for the other filing types were not statistically significant at conventional levels.

Following the same youth for another year after the application summer, we find that those SYEP + community partner affiliated youth are still less likely to have a delinquency filing (8% compared with 12%)—and the gap between the two groups is larger as the window of observation extends. This two-year difference in the odds of a filing is also statistically significant. When looking at the likelihood by type of filing, we find again that the difference between the treatment and comparison group is driven primarily by differences in the likelihood of a violent filing—differences among the other filing categories were not statistically significant at conventional levels.

Table 6. Delinquency Filings – Community Partner Affiliation

Average Treatment Effects on the Treated (ATET): PSM using 1:1 nearest neighborhood with replacement					
	Treated (n=676)	Comparison (n=624)	Difference	AI Robust S.E.	p- value
Delinquency filing (ever) within 1-year period (proportion)					
All types	0.05	0.08	-0.03*	0.01	0.04
Violence	0.02	0.04	-0.02*	0.01	0.01
Drug	0.00	0.00	-0.00	0.00	0.56
Property	0.03	0.04	-0.01	0.01	0.31
Other	0.02	0.02	-0.00	0.01	0.71
Delinquency filing (ever) within 2-year period (proportion)					
All types	0.08	0.12	-0.04*	0.02	0.01
Violence	0.03	0.07	-0.04*	0.01	0.01
Drug	0.00	0.01	-0.01	0.01	0.06
Property	0.04	0.06	-0.02	0.01	0.20
Other	0.03	0.04	-0.01	0.01	0.26

*Notes: * indicates differences that are statistically significant.; Treatment group are made up of a matched sample from those that were selected & completed employment with a community partner agency. The comparison group are made up of a matched sample of applicants not selected to participate in SYEP.; Applicants from 2014-2016 were included in the sample to ensure that 2-year follow-up in the juvenile court records through June 2018 was possible.; The sample includes applicants between the ages of 14 and 16 at the time of SYEP application.; Applicant data supplied by Y.O.U.; Delinquency filing data from Cuyahoga County Juvenile Court administrative records.*

To investigate the effect of Y.O.U. SYEP + community partner affiliation on incarceration events in the 1-2-year period post-application, the sample was restricted to only those applicants for whom a 2-year observation window post-placement summer was possible in the administrative data. Further, the sample was restricted to include only those applicants that were 17 years of age or older during the placement summer (i.e. those that would have turned 18 during the follow-up period).

As indicated in Table 7, SYEP + community partner affiliated participants were less likely than the comparison group to be incarcerated in the county jail system in the one and two-year period following placement. In the one-year follow-up period, 6.9 percent of the comparison group had been incarcerated compared to only 1.5 percent of the treatment group. This difference is statistically significant at conventional levels. The same pattern holds when looking at the 2-year follow-up period—9.7 percent of the comparison group had been incarcerated compared to 4.9 percent of the treatment group. This difference is also statistically significant at conventional levels.

Table 7. Incarceration – Community Partner Affiliation

Average Treatment Effects on the Treated (ATET): PSM using 1:1 nearest neighborhood with replacement					
	Treated (n=390)	Comparison (n=320)	Difference	AI Robust S.E.	p- value
Incarceration (ever) within 1-year period (%)	1.5	6.9	-5.4*	0.02	0.00
Incarceration (ever) within 2-year period (%)	4.9	9.7	-4.8*	0.02	0.02

*Notes: * indicates differences that are statistically significant.; Treatment group are made up of a matched sample from those that were selected and were employed by a community partner agency in the school year prior to summer employment. The comparison group are made up of a matched sample of applicants not selected to participate in SYEP.; Applicants from 2014-2015 were included in the sample to ensure that 2-year follow-up in the County jail records through December 2017 was possible.; The sample includes applicants between the ages 17+ the time of SYEP application.; Applicant data supplied by Y.O.U.; Incarceration event data from Cuyahoga County Jail administrative records.*

Educational Outcomes:

- o **RQ7:** What is the effect of the Y.O.U. SYEP + community partner affiliation on school attendance in the academic year following job placement?
- o **RQ8:** What is the effect of the Y.O.U. SYEP + community partner affiliation on high school graduation and college matriculation for applicable CMSD students?

To investigate the effect of Y.O.U. SYEP + community partner affiliation on school attendance in the academic year following SYEP application, the matched samples include those applicants throughout 2014-2017 enrolled in public high schools (9th, 10th, and 11th graders) in the academic year prior to placement. Attendance rate data in for the academic year following assignment (days attended/total membership days) was used as the primary outcome measure.

As indicated in Table 8, those in the SYEP + community partner affiliated group had higher rates of school attendance in the academic year following summer employment compared to those in the matched comparison group. On average, SYEP + community partner affiliated youth attended school 89 percent of possible days compared to the comparison group who attended school an average of 87 percent of possible days. This difference is statistically significant at conventional levels. To test the robustness of this finding, the log of the attendance rate was also used as the outcome variable in an effort to account for the fact that attendance rates are

not normally distributed and are right-skewed. Under this more conservative estimate, the difference between groups is still statistically significant and favors the treatment group.

Again, we assess the extent to which students are chronically absent from school in the year following summer employment. Although youth in the treatment group are less likely to be chronically absent in the year following application, the difference between groups is not statistically significant.

Table 8. School Attendance – Community Partner Affiliation

Average Treatment Effects on the Treated (ATET): PSM using 1:1 nearest neighborhood with replacement					
	Treated (n=628)	Comparison (n=517)	Difference	AI Robust S.E.	p- value
Attendance rate for 1-year period after application summer (%)	88.97	86.60	2.37*	0.87	0.01
Log (Attendance rate) for 1-year period after application summer	4.47	4.44	0.03*	0.01	0.02
Attendance rate < 90% for 1-year period after application summer (%)	38.20	41.40	-3.2	0.03	0.29

*Notes: * indicates differences that are statistically significant.; Treatment group are made up of a matched sample from those that were selected and employed by a community partner agency. The comparison group are made up of a matched sample of applicants not selected to participate in SYEP.; Applicants from 2014-2017 enrolled in 9th-11th grade in the previous academic year were included in the sample to ensure that 1-year follow-up in the public school attendance records was possible through the 2017-2018 school year; Applicant data supplied by Y.O.U.; Public school attendance records housed in the CHILD System from the following school districts: Berea, Brooklyn, Bedford, Cleveland, Cleveland Heights, East Cleveland, Garfield Heights, Lakewood, Maple Heights, Richmond Heights, South Euclid/Lyndhurst, and Warrensville Heights. In addition, records for students in the sample were matched to Ohio Longitudinal Data Archive.*

Graduation and college matriculation data were available for those in the sample that could be matched to the CMSD administrative records. Those students who applied for SYEP during 2014 and 2015 and were eligible for graduation within the follow-up period were included. The administrative data contains student-level flags for graduation as well as details about college matriculation for graduated students (See Table 1 for further detail.)

Table 9 displays the graduation and college matriculation findings for the study groups. More than eighty-four percent of the treatment group graduated from high school compared to seventy-two percent of the comparison group. In addition, we were able to confirm that fifty-four percent of the treatment group had matriculated in college compared to only forty-two percent of the comparison group. Both of these differences are statistically significant at conventional levels.

Table 5. High School Graduation and College Matriculation – Community Partner Affiliation
Average Treatment Effects on the Treated (ATET): PSM using 1:1 nearest neighborhood with replacement

	Treated (n=281)	Comparison (n=248)	Difference	AI Robust S.E.	p- value
High School Graduation (%)	84.30	72.20	12.1*	0.04	0.00
College Matriculation (%)	54.10	42.00	12.1*	0.04	0.00

*Notes: * indicates differences that are statistically significant.; Treatment group are made up of a matched sample from those that were selected and employed by a community partner agency. The comparison group are made up of a matched sample of applicants not selected to participate in SYEP.; Applicants from 2014 and 2015 grade-eligible for graduation and college matriculation within follow-up period were included; Applicant data supplied by Y.O.U.; Public school graduation and college matriculation data supplied by CMSD and the Ohio Longitudinal Data Archive.*

Conclusion

In summary, participation in the Y.O.U. SYEP and SYEP + community partner affiliation appears to be beneficial to completers in terms of lower rates of delinquency and incarceration as well as improved educational outcomes. When viewing the impact of youth employment programming not only through a workforce development lens, but shifting to a more expansive criminal justice and education view, the social cost benefit calculation favors increased resource allocation to this type of programming.

Impact of SYEP

Specifically, in the 2 years following program assignment, SYEP completers are less likely to be charged with delinquency offenses and are less likely to be incarcerated in the adult system than are similar individuals who applied for SYEP and were not selected to participate. With respect to educational outcomes, SYEP completers had higher school attendance in the year following their summer job than those that applied for SYEP but were not selected, and CMSD-enrolled SYEP completers were more likely to graduate from high school than CMSD-enrolled SYEP applicants that were not selected to participate.

Impact of SYEP + Community Partner Affiliation

SYEP participants affiliated with a community partner agency had even more favorable outcomes than their matched comparison group. They were less likely to be charged with a delinquency offense in the one-and-two years following summer application, and were less likely to be incarcerated in the adult system than similar youth that applied for SYEP and were not selected to participate. School attendance was higher for SYEP + community partner affiliated youth. Finally, CMSD-enrolled SYEP participants with a community partner affiliation were more likely to both graduate from high school and matriculate in college than the comparison group. As discussed above, these findings should be interpreted with caution given potential selection bias among those youth affiliated with community partner agencies.

Nevertheless, the findings show that youth who participate in SYEP along with consistent adult mentorship to promote stability and barrier remediation during the year are attaining better educational outcomes and decreased likelihood of criminal justice contact.

Limitations

Given that neither analysis was designed as a strict randomized control trial, selection bias is a potential threat to the validity of the study. In particular for youth enrolled in the SYEP + community partner affiliation because these youth bypass the lottery process and are recommended by community partner agencies to participate. Given this limitation however, our ability to rely on a rich, linked administrative data system provides this study with a leg-up on other quasi-experimental studies as many pre-treatment covariates were relied upon to build matched treatment and comparison samples that lessen the threat of bias.

Next Steps

Over the next year, we plan to continue to build upon the work done in the first year by further exploring the impact of different aspects and “dosages” of the Y.O.U. intervention to better understand what aspects of the program are driving the differences in outcomes that we are observing. In particular, case management services to SYEP participants was an added service layer that started in 2017. In collaboration with YOU, we plan to begin to understand the impact of the case management service by comparing similar participant youth that did and did not receive case management services on criminal justice and educational outcomes. Further, there are applicants that are selected to participate in SYEP more than once over multiple summers. We’d like to take a closer look at the effect of a longer treatment of summer employment on outcomes by comparing youth selected over multiple summers to similarly motivated youth that were not selected (i.e. youth that applied over multiple years but were not selected to participate).

References

Davis, J. M., & Heller, S. B. (2017). *Rethinking the benefits of youth employment programs: The heterogeneous effects of summer jobs*. (NBER Working Paper No. w23443). Cambridge, MA: National Bureau of Economic Research.

Gelber, A., Isen, A., & Kessler, J. B. (2015). The effects of youth employment: Evidence from New York City lotteries. *The Quarterly Journal of Economics*, 131(1), 423-460.

Heller, S. B. (2014). Summer jobs reduce violence among disadvantaged youth. *Science*, 346(6214), 1219-1223.

Lanza, S. T., Moore, J. E., & Butera, N. M. (2013). Drawing causal inferences using propensity scores: A practical guide for community psychologists. *American Journal of Community Psychology*, 52(3-4), 380-392.

Leos-Urbel, J. (2014). What is a summer job worth? The impact of summer youth employment on academic outcomes. *Journal of Policy Analysis and Management*, 33(4), 891-911.

Loprest, P., Spaulding, S., & Nightingale, D. S. (2019). Disconnected Young Adults: Increasing Engagement and Opportunity. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 5(5), 221-243.

Modestino, A. S. (2019). How Do Summer Youth Employment Programs Improve Criminal Justice Outcomes, and for Whom? *Journal of Policy Analysis and Management*, 38(3), 600-628.

Ross, M. (2018). *Let's Invest in Summer Jobs Programs to Maximize Their Impact*. Washington, D.C.: Brookings Institution.

Schwartz, A. E., Leos-Urbel, J., & Wiswall, M. (2015). *Making summer matter: The impact of youth employment on academic performance*. (NBER Working Paper No. w21470). Cambridge, MA: National Bureau of Economic Research.

Appendix A: Baseline Comparability of Initial Applicant Assignment

To test if researchers could treat those applicants selected for SYEP and those not selected as randomly assigned groups, an assessment of baseline comparability was conducted using data from the CHILD System on baseline covariates. As the table below demonstrates, there were statistically significant differences across groups such that treating study groups as randomly assigned was not feasible. Upon conclusion of this analysis, researchers opted to do a propensity score analysis to create more comparable study groups at baseline.

Appendix Table A: Baseline Comparability of Initial Applicant Assignment

Variable	Not selected (n=16,150)		Selected (n=9,730)		Statistics	
	n	%	n	%	χ^2 or t	p
Race/ethnicity						
Hispanic	793.00	4.91	479.00	4.92		
Black	13711.00	84.90	8253.00	84.82		
White	987.00	6.11	578.00	5.94		
Other	659.00	4.08	240.00	2.47	1.11	0.77
Gender						
Male	7453.00	46.15	4342.00	44.62		
Female	8697.00	53.85	5388.00	55.38	5.68	0.02
Edu at participation						
HS dropout/withdraw	44.00	0.28	188.00	1.93		
HS student	15370.00	97.10	8185.00	84.12		
HS diploma	276.00	1.74	988.00	10.15		
Some college +	139.00	0.88	278.00	2.86	1300.78	0.00
Age at participation						
	15.73	1.38	17.12	2.40	-52.22	0.00
Low-birth weight - No						
Yes	11492.00	88.29	6834.00	86.60		
Yes	1524.00	11.71	1057.00	13.40	12.91	0.00
Premature birth - No						
Yes	11318.00	86.97	6796.00	86.08		
Yes	1696.00	13.03	1099.00	13.92	3.35	0.07
Teen mother- No						
Yes	9858.00	75.70	5850.00	74.04		
Yes	3165.00	24.30	2051.00	25.96	7.20	0.01
Mother w/ HS degree- No						
Yes	4408.00	34.85	2942.00	38.26		
Yes	8239.00	65.15	4747.00	61.74	24.07	0.00
Maltreatment inve -No						
Yes	15388.00	95.28	9303.00	95.61		
Yes	762.00	4.72	427.00	4.39	1.51	0.22
Foster care - No						
Yes	14641.00	90.66	8517.00	87.53		
Yes	1509.00	9.34	1213.00	12.47	62.92	0.00
TANF/SNAP > 50% life - No						
Yes	6525.00	40.40	3896.00	40.04		
Yes	9625.00	59.60	5834.00	59.96	0.33	0.57
Delinquency filing - No						
Yes	14266.00	88.33	8049.00	82.72		
Yes	1884.00	11.67	1681.00	17.28	160.93	0.00
DL filing: Drug -No						
Yes	16074.00	99.53	9639.00	99.06		
Yes	76.00	0.47	91.00	0.94	20.45	0.00
DL filing: Property -No						
Yes	15282.00	94.98	8923.00	91.71		
Yes	807.00	5.02	807.00	8.29	85.49	0.00
DL filing: Other -No						
Yes	15505.00	96.01	9106.00	93.59		
Yes	645.00	3.99	624.00	6.41	76.22	0.00
DL filing: Violence -No						
Yes	15016.00	92.98	8668.00	89.09		
Yes	1134.00	7.02	1062.00	10.91	118.51	0.00

Notes: p-values less than or equal to 0.05 are statistically significant; This analysis used the following types of records for assessing baseline comparability of groups: Birth certificates and lead testing records from the Ohio Department of Health; Child abuse and neglect and placement reports from Cuyahoga County Division of Children and Family Services; Monthly food assistance receipt from Cuyahoga County Job and Family Services; and previous delinquency offense records from the Cuyahoga County juvenile court.

Appendix B: SYEP Impact Analysis- Propensity Score Bias Reduction and Balance Checks

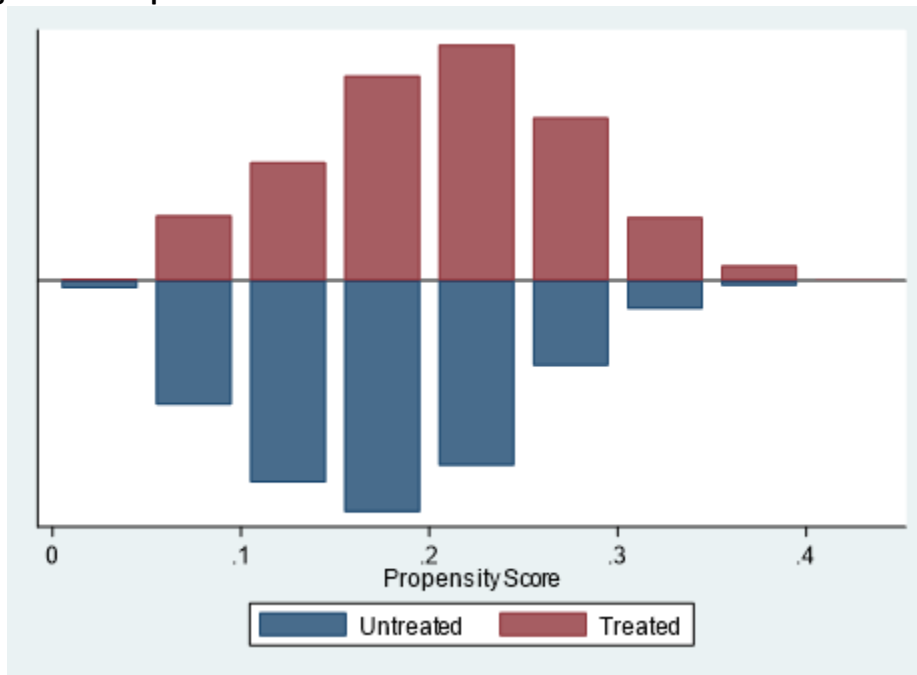
Appendix Table B1 - RQ1: Juvenile Justice Offenses- Assessment of Matched Sample Balance

Variable	Unmatched Matched	Mean		%bias	%reduct bias	t-test	
		Treated	Comparison			t	p> t
Female	U	0.55	0.53	4.00		1.53	0.13
	M	0.56	0.54	3.30	17.00	0.89	0.37
Black	U	0.89	0.85	14.40		5.28	0.00
	M	0.92	0.91	1.40	90.00	0.47	0.64
White	U	0.03	0.06	-13.50		-4.76	0.00
	M	0.03	0.03	-1.00	92.80	-0.32	0.75
Age at participation	U	15.48	15.30	20.80		8.18	0.00
	M	15.48	15.49	-0.50	97.50	-0.14	0.89
HS student	U	0.99	0.98	8.20		2.85	0.00
	M	0.99	0.99	-1.20	85.80	-0.41	0.68
Low birth weight	U	0.14	0.11	7.90		2.84	0.01
	M	0.13	0.15	-3.50	55.10	-0.91	0.37
Premature birth	U	0.15	0.13	6.00		2.14	0.03
	M	0.15	0.17	-5.60	6.30	-1.43	0.15
Teen mother	U	0.24	0.25	-3.10		-1.08	0.28
	M	0.24	0.23	3.30	-7.80	0.92	0.36
Mother with HS diploma	U	0.64	0.65	-2.10		-0.74	0.46
	M	0.64	0.63	2.30	-7.20	0.62	0.54
History of Maltreatment	U	0.08	0.08	-3.20		-1.21	0.23
	M	0.08	0.08	0.50	84.10	0.14	0.89
Foster care placement	U	0.10	0.09	5.00		1.97	0.05
	M	0.10	0.09	3.30	34.50	0.88	0.38
SNAP>50% life time	U	0.65	0.58	15.00		5.71	0.00
	M	0.69	0.71	-4.00	73.60	-1.14	0.26
Cleveland resident	U	0.57	0.59	-3.20		-1.24	0.22
	M	0.57	0.59	-3.50	-8.50	-0.94	0.35
Previous delinquency	U	0.10	0.10	-0.50		-0.19	0.85
	M	0.11	0.11	0.90	-85.00	0.24	0.81
SYEP Year 2015	U	0.29	0.26	5.90		2.30	0.02
	M	0.29	0.28	3.10	48.00	0.82	0.41
SYEP Year 2016	U	0.15	0.28	-31.50		-11.32	0.00
	M	0.14	0.16	-4.20	86.50	-1.29	0.20
Census tract- % Poverty	U	32.97	31.87	6.40		2.46	0.01
	M	32.89	33.23	-1.90	69.60	-0.51	0.61
Census tract- % Unemp	U	20.38	19.51	8.00		3.11	0.00
	M	20.53	20.81	-2.50	68.60	-0.66	0.51
Census tract- % Black	U	65.04	63.22	5.80		2.19	0.03
	M	65.30	64.80	1.60	72.80	0.43	0.67

Notes: p-values less than or equal to 0.05 are statistically significant.; This analysis used the following types of records for assessing baseline comparability of groups, establishing matched samples and assessing outcomes: Birth certificates and lead testing records from the Ohio Department of Health; Child abuse and neglect and placement reports from Cuyahoga County Division of Children and Family Services; Monthly food assistance receipt from Cuyahoga County Job and Family Services; Previous delinquency offense records from the Cuyahoga County juvenile court; SYEP application year data from YOU

administrative records; neighborhood-level distress variables calculated using applicant address and data from the U.S. Census Bureau.

Appendix Figure B1: Sample Balance Check – Juvenile Justice Outcomes

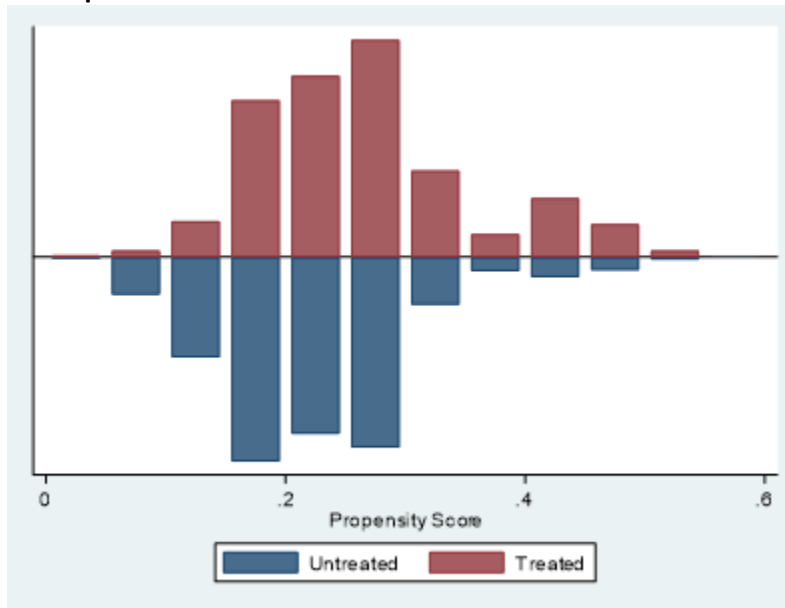


Appendix Table B2 - RQ2: Jail Incarceration - Assessment of Matched Sample Balance

Sample characteristics and bias reduction							
Variable	Unmatched	Mean		%reduct		t-test	
	Matched	Treated	Comparison	%bias	bias	t	p> t
Female	U	0.52	0.54	-3.90		-0.86	0.39
	M	0.53	0.50	5.30	-34.70	0.83	0.41
Black	U	0.89	0.85	11.30		2.41	0.02
	M	0.94	0.94	-1.80	83.80	-0.40	0.69
White	U	0.03	0.05	-11.40		-2.37	0.02
	M	0.02	0.02	1.00	91.00	0.24	0.81
Age at participation	U	17.76	17.85	-17.50		-3.80	0.00
	M	17.79	17.82	-6.10	64.90	-0.98	0.33
HS student	U	0.95	0.90	19.10		3.91	0.00
	M	0.94	0.95	-1.50	92.00	-0.27	0.78
Low birth weight	U	0.12	0.13	-1.80		-0.36	0.72
	M	0.12	0.14	-5.50	-201.40	-0.84	0.40
Premature birth	U	0.12	0.13	-1.60		-0.31	0.75
	M	0.12	0.13	-2.40	-52.90	-0.38	0.70
Born to Teen mother	U	0.25	0.26	-2.10		-0.41	0.68
	M	0.26	0.30	-8.80	-326.90	-1.35	0.18
Mother with HS diploma	U	0.61	0.64	-6.00		-1.19	0.24
	M	0.61	0.57	9.20	-52.20	1.42	0.16
History of Maltreatment	U	0.02	0.02	-3.00		-0.65	0.51
	M	0.01	0.00	5.90	-94.00	1.42	0.16
Foster care placement	U	0.16	0.14	4.80		1.07	0.28
	M	0.16	0.15	1.70	64.30	0.26	0.79
SNAP>50% life time	U	0.60	0.53	14.70		3.22	0.00
	M	0.71	0.72	-1.20	91.60	-0.21	0.83
Cleveland resident	U	0.63	0.59	7.40		1.62	0.11
	M	0.64	0.65	-0.40	94.40	-0.07	0.95
SYEP Year 2015	U	0.24	0.12	31.70		7.53	0.00
	M	0.20	0.20	0.00	100.00	0.00	1.00
Census tract- % Poverty	U	34.76	32.09	15.60		3.44	0.00
	M	35.33	34.96	2.20	86.00	0.34	0.74
Census tract- % Unemp	U	21.26	19.94	12.50		2.74	0.01
	M	21.89	21.98	-0.90	93.20	-0.13	0.90
Census tract- % Black	U	67.45	64.82	8.40		1.83	0.07
	M	70.21	70.69	-1.60	81.60	-0.26	0.80

Notes: p-values less than or equal to 0.05 are statistically significant.; This analysis used the following types of records for assessing baseline comparability of groups, establishing matched samples and assessing outcomes: Birth certificates and lead testing records from the Ohio Department of Health; Child abuse and neglect and placement reports from Cuyahoga County Division of Children and Family Services; Monthly food assistance receipt from Cuyahoga County Job and Family Services; Previous delinquency offense records from the Cuyahoga County juvenile court; SYEP application year data from YOU administrative records; neighborhood-level distress variables calculated using applicant address and data from the U.S. Census Bureau.

Appendix Figure B2: Sample Balance Check –Jail Incarceration



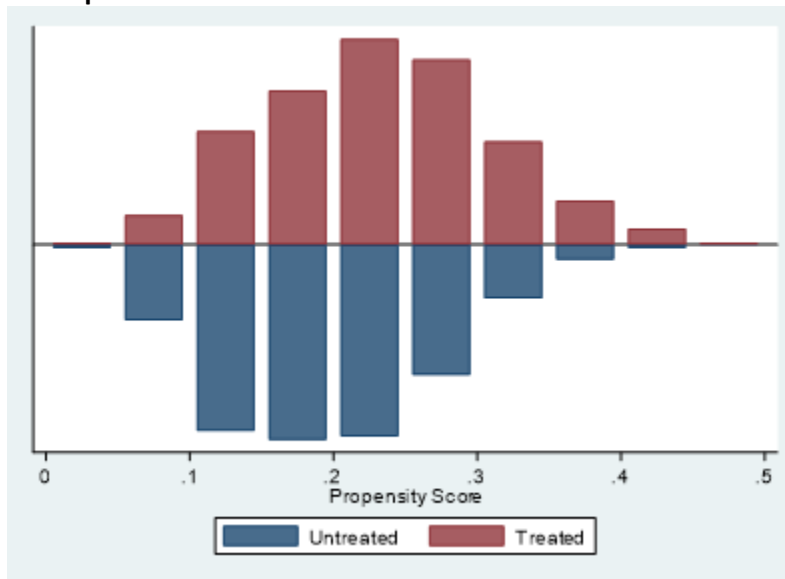
Appendix Table B3 - RQ3: School Attendance - Assessment of Matched Sample Balance

Sample characteristics and bias reduction							
Variable	Unmatched	Mean		%reduct		t-test	
	Matched	Treated	Comparison	%bias	bias	t	p> t
Female	U	0.55	0.54	0.50		0.17	0.87
	M	0.55	0.55	1.40	-162.60	0.31	0.75
Black	U	0.89	0.86	10.10		3.10	0.00
	M	0.93	0.92	3.60	64.40	1.01	0.31
White	U	0.03	0.05	-11.80		-3.47	0.00
	M	0.02	0.03	-4.10	65.40	-1.17	0.24
Age at participation	U	16.26	16.01	26.30		8.47	0.00
	M	16.23	16.29	-5.50	79.20	-1.19	0.23
Low birth weight	U	0.14	0.12	6.10		1.78	0.08
	M	0.14	0.15	-4.10	31.50	-0.88	0.38
Premature birth	U	0.15	0.12	7.30		2.16	0.03
	M	0.15	0.16	-4.90	33.10	-1.04	0.30
Born to Teen mother	U	0.26	0.26	0.90		0.26	0.80
	M	0.27	0.24	5.00	-452.20	1.12	0.26
Mother w/ HS diploma	U	0.62	0.63	-2.40		-0.68	0.49
	M	0.62	0.60	2.40	-2.10	0.55	0.58
History of Maltreatment	U	0.05	0.06	-2.80		-0.89	0.38
	M	0.05	0.04	3.90	-38.90	0.97	0.34
Foster care	U	0.12	0.10	3.60		1.15	0.25
	M	0.11	0.10	2.80	20.60	0.64	0.52
SNAP>50% life time	U	0.66	0.60	13.20		4.13	0.00
	M	0.72	0.73	-2.90	78.10	-0.70	0.48
Cleveland residence	U	0.62	0.62	0.20		0.06	0.95
	M	0.62	0.62	-0.20	-1.30	-0.05	0.96
Attendance rate 1 yr before	U	88.41	88.06	2.70		0.85	0.40
	M	87.97	87.42	4.30	-58.10	0.90	0.37
Grade 1 year before =10th	U	0.33	0.28	12.00		3.86	0.00
	M	0.34	0.37	-4.70	60.50	-1.02	0.31
Grade 1 year before =11th	U	0.23	0.17	15.10		4.97	0.00
	M	0.21	0.21	0.50	96.70	0.11	0.91
SYEP Year 2015	U	0.23	0.17	17.00		5.60	0.00
	M	0.22	0.21	3.50	79.50	0.76	0.45
SYEP Year 2016	U	0.10	0.19	-27.80		-8.16	0.00
	M	0.10	0.12	-5.70	79.50	-1.43	0.15
SYEP Year 2017	U	0.13	0.19	-16.30		-4.95	0.00
	M	0.13	0.14	-2.70	83.30	-0.65	0.52
Census tract- % Poverty	U	33.68	32.49	6.90		2.21	0.03
	M	33.66	34.08	-2.40	65.20	-0.53	0.60
Census tract- % Unemp	U	20.85	19.90	8.90		2.88	0.00
	M	21.27	21.46	-1.80	79.50	-0.40	0.69
Census tract- % Black	U	64.75	63.42	4.20		1.34	0.18
	M	66.91	66.88	0.10	98.00	0.02	0.98

Notes: p-values less than or equal to 0.05 are statistically significant.; This analysis used the following types of records for assessing baseline comparability of groups, establishing matched samples and assessing outcomes: Birth certificates and lead testing records from the Ohio Department of Health; Child abuse and neglect and placement reports from Cuyahoga County Division of Children and Family Services; Monthly food assistance receipt from Cuyahoga County Job and Family Services;

Previous delinquency offense records from the Cuyahoga County juvenile court; SYEP application year data from YOU administrative records; neighborhood-level distress variables calculated using applicant address and data from the U.S. Census Bureau.

Appendix Figure B3: Sample Balance Check – School Attendance

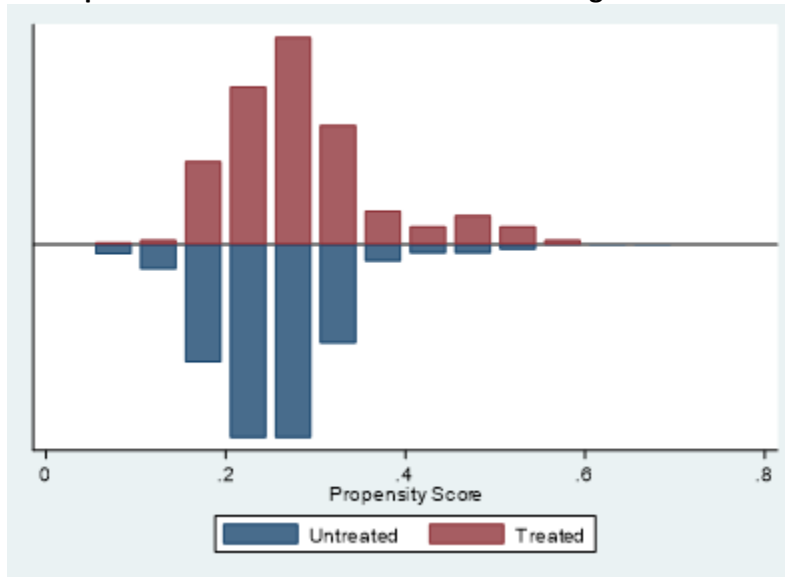


Appendix Table B4 - RQ4: Graduation and College Matriculation - Assessment of Matched Sample Balance

Sample characteristics and bias reduction							
Variable	Unmatched	Mean		%reduct		t-test	
	Matched	Treated	Comparison	%bias	bias	t	p> t
Female	U	0.58	0.53	11.50		1.91	0.06
	M	0.58	0.55	7.40	36.20	0.90	0.37
Black	U	0.88	0.84	9.40		1.53	0.13
	M	0.91	0.93	-5.70	39.10	-0.90	0.37
White	U	0.03	0.05	-8.40		-1.33	0.19
	M	0.02	0.01	3.50	58.30	0.64	0.52
Age at participation	U	17.01	16.96	6.50		1.07	0.29
	M	16.98	17.00	-2.40	63.80	-0.29	0.77
Low birth weight	U	0.13	0.10	8.30		1.29	0.20
	M	0.13	0.14	-1.00	87.60	-0.12	0.91
Premature birth	U	0.12	0.11	1.60		0.25	0.80
	M	0.12	0.13	-4.20	-155.70	-0.50	0.62
Born to Teen mother	U	0.28	0.29	-2.90		-0.44	0.66
	M	0.28	0.27	2.20	24.60	0.27	0.79
Mother w/ HS diploma	U	0.57	0.59	-4.10		-0.62	0.54
	M	0.57	0.56	2.00	51.20	0.25	0.81
History of Maltreatment	U	0.05	0.06	-4.20		-0.68	0.50
	M	0.05	0.04	2.90	30.70	0.40	0.69
Foster care	U	0.14	0.14	1.20		0.20	0.84
	M	0.14	0.11	9.60	-683.60	1.23	0.22
SNAP>50% life time	U	0.70	0.61	18.70		3.05	0.00
	M	0.76	0.74	4.90	73.70	0.66	0.51
Grade 1 year before =11th	U	0.48	0.42	12.00		1.99	0.05
	M	0.45	0.45	-0.70	94.40	-0.08	0.94
SYEP year 2015	U	0.15	0.07	26.20		4.75	0.00
	M	0.13	0.13	-2.20	91.70	-0.24	0.81
Census tract- % Poverty	U	39.81	38.54	8.30		1.38	0.17
	M	39.66	38.84	5.30	36.00	0.64	0.52
Census tract- % Unemp	U	23.77	23.14	6.20		1.03	0.31
	M	23.90	23.18	7.00	-14.00	0.85	0.39
Census tract- % Black	U	69.08	67.79	4.00		0.66	0.51
	M	71.20	70.88	1.00	75.30	0.13	0.90

Notes: p-values less than or equal to 0.05 are statistically significant.; This analysis used the following types of records for assessing baseline comparability of groups, establishing matched samples and assessing outcomes: Birth certificates and lead testing records from the Ohio Department of Health; Child abuse and neglect and placement reports from Cuyahoga County Division of Children and Family Services; Monthly food assistance receipt from Cuyahoga County Job and Family Services; Previous delinquency offense records from the Cuyahoga County juvenile court; SYEP application year data from YOU administrative records; neighborhood-level distress variables calculated using applicant address and data from the U.S. Census Bureau.

Appendix Figure B4: Sample Balance Check – Graduation and College Matriculation



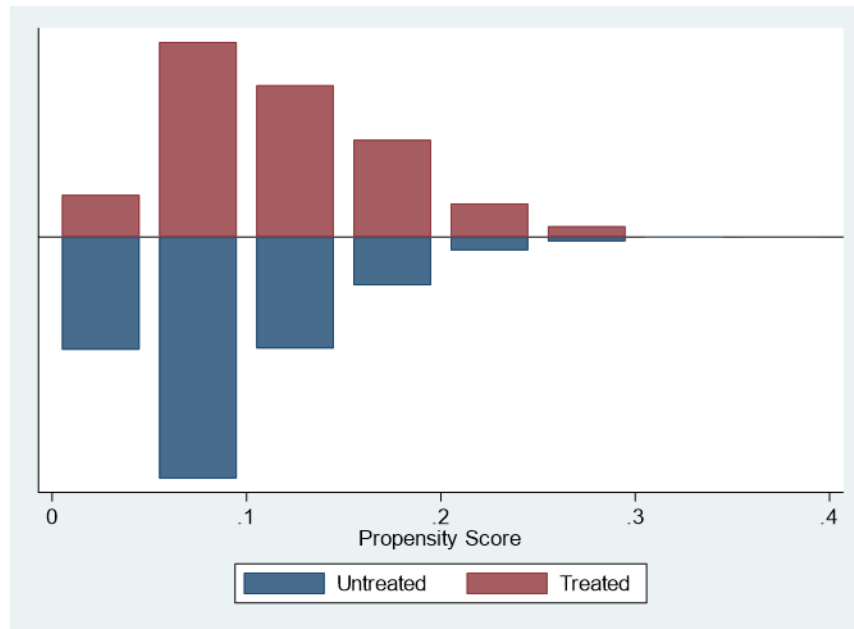
Appendix C: Community partner affiliation Analysis-Propensity Score Bias Reduction and Balance Checks

Appendix Table C1 – RQ5: Juvenile Justice Offenses- Assessment of Matched Sample Balance

Sample characteristics and bias reduction (Treatment=676; Control=624)								
Variable	Unmatched		Mean		%reduct		t-test	
	Matched		Treated	Control	%bias	bias	t	p> t
Female	U		0.52	0.53	-2.9		-0.80	0.421
	M		0.51	0.53	-2.4	18.1	-0.44	0.663
Black	U		0.84	0.85	-1.2		-0.32	0.748
	M		0.87	0.86	1.6	-41.5	0.32	0.750
White	U		0.05	0.06	-3.1		-0.84	0.401
	M		0.05	0.05	-1.3	59.1	-0.25	0.801
Age at participation	U		15.65	15.30	41.1		11.71	0.000
	M		15.61	15.59	2.1	94.9	0.38	0.701
HS student	U		0.99	0.98	6.0		1.53	0.127
	M		0.99	0.98	4.8	20.2	0.86	0.390
Low birth weight	U		0.14	0.11	8.0		2.10	0.036
	M		0.14	0.14	-0.4	94.4	-0.08	0.938
Prematur birth	U		0.14	0.13	4.4		1.12	0.264
	M		0.14	0.13	2.6	40.2	0.48	0.633
Teen mother	U		0.21	0.25	-10.5		-2.57	0.010
	M		0.21	0.21	-0.4	96.6	-0.07	0.947
Mother with HS	U		0.69	0.65	7.2		1.76	0.078
	M		0.69	0.67	4.4	38.7	0.81	0.416
Maltreatment	U		0.08	0.08	-3.3		-0.91	0.364
	M		0.07	0.09	-7.6	-128.6	-1.38	0.167
Foster care placement	U		0.09	0.09	2.2		0.63	0.530
	M		0.08	0.10	-6.7	-199.2	-1.21	0.226
SNAP>50% life time	U		0.58	0.58	-0.3		-0.07	0.945
	M		0.63	0.65	-4.2	-1575.7	-0.79	0.429
Cleveland resident	U		0.71	0.59	25.2		6.78	0.000
	M		0.69	0.73	-9.1	64.1	-1.73	0.083
Previous delinquency	U		0.08	0.10	-7.8		-2.09	0.037
	M		0.09	0.10	-2.6	67.4	-0.47	0.639
Program Year 2015	U		0.15	0.26	-27.8		-7.15	0.000
	M		0.15	0.16	-2.6	90.7	-0.52	0.602
Program Year 2016	U		0.23	0.28	-11.1		-3.01	0.003
	M		0.23	0.23	0.3	96.9	0.06	0.948
Census tract- % Poverty	U		36.44	31.87	25.9		7.32	0.000
	M		35.75	36.71	-5.4	79.0	-0.99	0.325
Census tract- % Unemp	U		21.13	19.51	14.8		4.17	0.000
	M		20.90	20.90	0.1	99.5	0.01	0.990
Census tract- % Black	U		64.12	63.22	2.7		0.77	0.439
	M		64.65	65.20	-1.7	38.1	-0.32	0.753

Notes: p-values less than or equal to 0.05 are statistically significant.; This analysis used the following types of records for assessing baseline comparability of groups, establishing matched samples and assessing outcomes: Birth certificates and lead testing records from the Ohio Department of Health; Child abuse and neglect and placement reports from Cuyahoga County Division of Children and Family Services; Monthly food assistance receipt from Cuyahoga County Job and Family Services; Previous delinquency offense records from the Cuyahoga County juvenile court; SYEP application year data from YOU administrative records; neighborhood-level distress variables calculated using applicant address and data from the U.S. Census Bureau.

Appendix Figure C1: Sample Balance Check – Juvenile Justice Outcomes

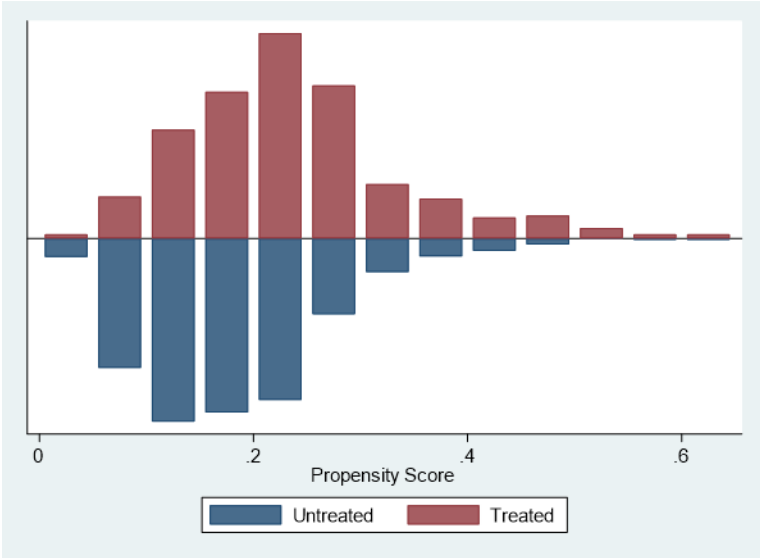


Appendix Table C2 – RQ6: Jail Incarceration- Assessment of Matched Sample Balance

Sample characteristics and bias reduction							
Variable	Unmatched	Mean		%reduct		t-test	
	Matched	Treated	Control	%bias	bias	t	p> t
Female	U	0.58	0.54	8.2		1.60	0.110
	M	0.59	0.56	6.2	24.9	0.87	0.386
Black	U	0.85	0.85	0.2		0.03	0.974
	M	0.90	0.90	-0.7	-337	-0.12	0.905
White	U	0.04	0.05	-3.3		-0.63	0.528
	M	0.04	0.05	-3.6	-8	-0.53	0.594
Age at participation	U	17.77	17.85	-15.2		-2.90	0.004
	M	17.79	17.80	-1.5	90.2	-0.21	0.832
HS student	U	0.96	0.90	21.8		3.85	0.000
	M	0.95	0.96	-3.0	86.4	-0.52	0.604
Low birth weight	U	0.15	0.13	6.6		1.20	0.230
	M	0.15	0.16	-3.0	54.9	-0.40	0.692
Prematur birth	U	0.15	0.13	4.6		0.84	0.401
	M	0.14	0.17	-8.9	-93.3	-1.18	0.237
Teen mother	U	0.30	0.26	7.9		1.44	0.150
	M	0.30	0.31	-1.7	78.4	-0.23	0.816
Mother with HS	U	0.57	0.64	-15.0		-2.69	0.007
	M	0.57	0.59	-4.2	72	-0.58	0.562
Maltreatment	U	0.01	0.02	-4.7		-0.87	0.386
	M	0.01	0.01	0.0	100	0.00	1.000
Foster care placement	U	0.16	0.14	6.4		1.28	0.201
	M	0.16	0.16	0.7	88.9	0.10	0.922
SNAP>50% life time	U	0.58	0.53	10.7		2.08	0.038
	M	0.63	0.63	0.0	100	0.00	1.000
Cleveland resident	U	0.77	0.59	38.6		7.17	0.000
	M	0.77	0.78	-2.2	94.2	-0.34	0.732
Program Year 2015	U	0.23	0.12	30.0		6.38	0.000
	M	0.20	0.19	4.1	86.4	0.54	0.588
Census tract- % Poverty	U	38.56	32.09	38.3		7.38	0.000
	M	39.10	39.44	-2.0	94.8	-0.28	0.778
Census tract- % Unemp	U	23.58	19.94	34.2		6.63	0.000
	M	24.11	24.37	-2.5	92.7	-0.35	0.728
Census tract- % Black	U	69.96	64.82	16.3		3.13	0.002
	M	72.01	74.07	-6.5	59.8	-0.96	0.337

Notes: p-values less than or equal to 0.05 are statistically significant.; This analysis used the following types of records for assessing baseline comparability of groups, establishing matched samples and assessing outcomes: Birth certificates and lead testing records from the Ohio Department of Health; Child abuse and neglect and placement reports from Cuyahoga County Division of Children and Family Services; Monthly food assistance receipt from Cuyahoga County Job and Family Services; Previous delinquency offense records from the Cuyahoga County juvenile court; SYEP application year data from YOU administrative records; neighborhood-level distress variables calculated using applicant address and data from the U.S. Census Bureau.

Appendix Figure C2: Sample Balance Check – Adult Incarceration Outcomes



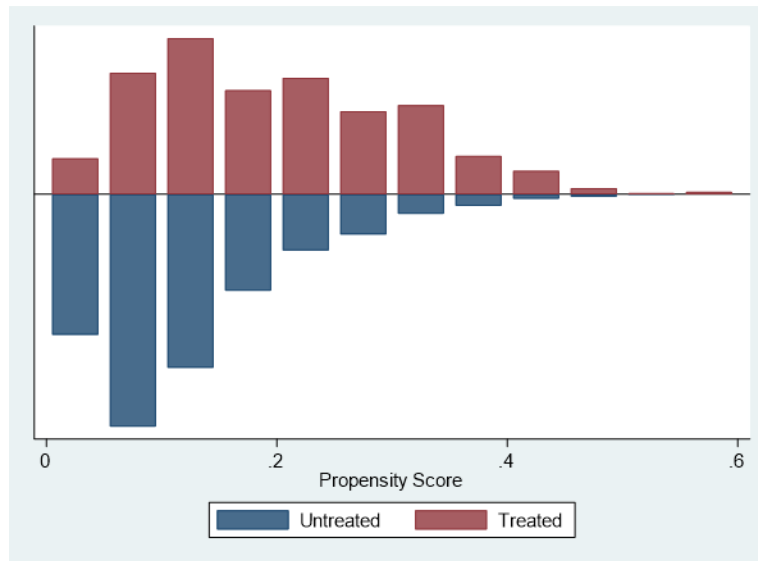
Appendix Table C3 – RQ7: School Attendance- Assessment of Matched Sample Balance

Sample characteristics and bias reduction		Mean		%reduct		t-test	
Variable	Unmatched Matched	Treated	Control	%bias	bias	t	p> t
Female	U	0.54	0.54	-1.4		-0.37	0.711
	M	0.52	0.50	3.2	-128.0	0.56	0.573
Black	U	0.84	0.86	-6.3		-1.71	0.087
	M	0.88	0.88	0.9	86.0	0.17	0.862
White	U	0.07	0.05	6.2		1.72	0.085
	M	0.05	0.05	0.0	100.0	0.00	1.000
Age at participation	U	16.56	16.01	58.1		15.41	0.000
	M	16.53	16.53	0.8	98.6	0.14	0.889
Low birth weight	U	0.16	0.12	11.1		2.76	0.006
	M	0.16	0.16	-1.9	83.3	-0.31	0.759
Premature birth	U	0.14	0.12	6.1		1.47	0.141
	M	0.14	0.14	0.0	100.0	0.00	1.000
Teen mother	U	0.25	0.26	-3.1		-0.74	0.461
	M	0.25	0.23	2.6	18.0	0.46	0.644
Mother w/ HS	U	0.61	0.63	-3.1		-0.73	0.465
	M	0.61	0.60	3.3	-5.2	0.58	0.564
Maltreatment	U	0.04	0.06	-5.8		-1.47	0.141
	M	0.04	0.06	-7.2	-24.7	-1.30	0.193
Foster care	U	0.14	0.10	11.4		3.15	0.002
	M	0.14	0.15	-3.4	70.2	-0.56	0.578
SNAP>50% life time	U	0.62	0.60	4.5		1.18	0.240
	M	0.68	0.65	6.2	-38.8	1.14	0.256
Cleveland residence	U	0.81	0.62	43.6		10.73	0.000
	M	0.79	0.79	-1.8	95.9	-0.35	0.729
Attendance rate 1 yr before	U	90.24	89.39	7.8		1.99	0.047
	M	90.23	89.94	2.7	65.4	0.49	0.623
Grade 1 year before =10th	U	0.37	0.28	19.7		5.34	0.000
	M	0.36	0.35	1.7	91.3	0.30	0.768
Grade 1 year before =11th	U	0.34	0.17	41.7		12.10	0.000
	M	0.34	0.35	-1.9	95.5	-0.30	0.767
SYEP Year 2015	U	0.13	0.17	-9.1		-2.33	0.020
	M	0.13	0.13	0.9	90.2	0.17	0.866
SYEP Year 2016	U	0.14	0.19	-13.1		-3.31	0.001
	M	0.14	0.13	1.7	86.9	0.33	0.739
SYEP Year 2017	U	0.15	0.19	-11.1		-2.83	0.005
	M	0.14	0.13	3.4	69.2	0.66	0.508
Census tract- % Poverty	U	39.32	32.49	40.8		10.75	0.000
	M	39.10	38.97	0.7	98.2	0.13	0.897
Census tract- % Unemp	U	23.31	19.90	32.4		8.61	0.000
	M	23.64	23.45	1.8	94.4	0.31	0.753
Census tract- % Black	U	67.09	63.41	11.4		3.05	0.002
	M	69.24	68.27	3.0	73.6	0.54	0.587

Notes: p-values less than or equal to 0.05 are statistically significant.; This analysis used the following types of records for assessing baseline comparability of groups, establishing matched samples and assessing outcomes: Birth certificates and lead

testing records from the Ohio Department of Health; Child abuse and neglect and placement reports from Cuyahoga County Division of Children and Family Services; Monthly food assistance receipt from Cuyahoga County Job and Family Services; Previous delinquency offense records from the Cuyahoga County juvenile court; SYEP application year data from YOU administrative records; neighborhood-level distress variables calculated using applicant address and data from the U.S. Census Bureau.

Appendix Figure C3: Sample Balance Check – School Attendance Outcomes



Appendix Table C4 – RQ8: High School Graduation and College Matriculation- Assessment of Matched Sample Balance

Sample characteristics and bias reduction							
Variable	Unmatched	Mean		%reduct		t-test	
	Matched	Treated	Control	%bias	bias	t	p> t
Female	U	0.54	0.54	0.0		-0.01	0.993
	M	0.54	0.58	-7.1	-14704.3	-0.85	0.396
Black	U	0.86	0.83	8.2		1.41	0.158
	M	0.91	0.90	3.9	52.4	0.57	0.568
White	U	0.03	0.05	-12.7		-2.03	0.042
	M	0.02	0.02	0.0	100.0	0.00	1.000
Age at participation	U	17.01	17.03	-1.9		-0.32	0.745
	M	17.06	17.06	0.4	79.7	0.05	0.964
Low birth weight	U	0.15	0.12	9.8		1.61	0.107
	M	0.15	0.15	0.0	100.0	0.00	1.000
Premature birth	U	0.12	0.12	1.6		0.25	0.799
	M	0.12	0.13	-2.2	-35.9	-0.25	0.801
Teen mother	U	0.27	0.29	-4.4		-0.69	0.489
	M	0.27	0.27	0.0	100.0	0.00	1.000
Mother w/ HS	U	0.59	0.57	4.4		0.69	0.492
	M	0.59	0.57	4.3	2.1	0.51	0.609
Maltreatment	U	0.04	0.06	-7.9		-1.33	0.184
	M	0.03	0.03	0.0	100.0	0.00	1.000
Foster care	U	0.15	0.15	1.2		0.21	0.832
	M	0.15	0.17	-7.9	-563.2	-0.92	0.358
SNAP>50% life time	U	0.65	0.62	6.6		1.16	0.246
	M	0.70	0.70	0.7	88.8	0.09	0.927
Grade 1 year before =11th	U	0.56	0.48	17.0		3.00	0.003
	M	0.58	0.58	0.7	95.8	0.09	0.932
Program Year 2015	U	0.11	0.14	-9.2		-1.57	0.117
	M	0.10	0.11	-3.2	65.2	-0.41	0.680
Census tract- % Poverty	U	42.32	38.48	25.1		4.39	0.000
	M	42.09	42.91	-5.3	78.7	-0.61	0.541
Census tract- % Unemp	U	25.75	22.75	29.5		5.14	0.000
	M	26.02	26.65	-6.2	79.0	-0.74	0.461
Census tract- % Black	U	72.46	66.01	20.0		3.47	0.001
	M	74.95	73.80	3.6	82.2	0.45	0.656

Notes: p-values less than or equal to 0.05 are statistically significant.; This analysis used the following types of records for assessing baseline comparability of groups, establishing matched samples and assessing outcomes: Birth certificates and lead testing records from the Ohio Department of Health; Child abuse and neglect and placement reports from Cuyahoga County Division of Children and Family Services; Monthly food assistance receipt from Cuyahoga County Job and Family Services; Previous delinquency offense records from the Cuyahoga County juvenile court; SYEP application year data from YOU

administrative records; neighborhood-level distress variables calculated using applicant address and data from the U.S. Census Bureau.

Appendix Figure C4: Sample Balance Check – High School Graduation and College Matriculation Outcomes

