

Family League 2011-12 Out of School Time Programs in Baltimore City



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Family League 2011-12 Out of School Time Programs in Baltimore City

Executive Summary

Out of School Time (OST) programs have been shown to promote positive personal, academic and social development (Huang, Gribbons, Kim, Lee, & Baker, 2000; Welsh et al., 2002). The Family League of Baltimore City works with partners to sponsor a range of after-school programs in Baltimore City Public Schools (City Schools) to provide healthy safe environments for children after school including nutritious meals. The strategic planning and development of the program logic model provides an ultimate outcome of increased graduation rates and career and college readiness. More short-term goals include increased student attendance and academic performance. Other desired outcomes are improved health and social and emotional development, but to date, no measures have been identified to document these changes. This report describes the students served and focuses on the outcomes of attendance and academic performance.

OST programs enrolled 3,523 students from kindergarten (K) through grade 12 in 64 Family League sponsored OST programs in 48 schools. The OST programs served fewer males than females, particularly in the middle grades. They did enroll more students eligible for FARMS (92.4%) than the City Schools average (84.5%), yet fewer receiving special education services (13.3% vs. 16.5% citywide).

Outcome analyses focused on students who met a threshold of participation established by program staff from the Family League. The threshold was attending a specific number of hours that would provide enough exposure to the program to expect a change in behavior. These OST students who met the threshold (OST regular attenders) were more likely than the City Schools population as a whole to be female, African American, and to receive free/reduced price lunch, were less likely to receive special education services, and had higher school attendance the previous school year. Students who enrolled in OST programs but did not meet the attendance threshold for outcome analysis were more likely to be in middle or high school, and to receive special education services.

OST Regular Attenders

- Had higher rates of school attendance than similar peers from the same school and this pattern continued into the next school year.
- Had higher promotion rates than their peers, and high school students had a higher rate of credit accrual.
- Entering 6th and 9th graders had higher school attendance through the first three quarters of 2012-13 as they were transitioning into middle grades and high school, respectively.
- Had significantly fewer chronically absent students in 2011-12 than comparable peers across the district. And for those who were chronically absent in 2010-11, more than two-

thirds (67.7%) of OST regular attenders were no longer chronically absent while slightly less than half (48.0%) of the nonparticipants continued to be CA.

In sum, while OST participation was associated with higher school attendance and promotion rates, this analysis cannot make a causal statement that participation increased attendance or promotion.

As a result from the analysis, we recommend that the Family League:

- Utilize the Community Schools strategy to better recruit priority students, so that services will better reach those students who need and will benefit from them the most, especially, students with a history of chronic absenteeism and those who receive special education services.
- Collect and monitor the reasons why students leave or are dismissed from OST programs to help OST programs retain students and identify any barriers to student attendance.
- Disaggregate results data by program/school to begin looking at which programs are best recruiting priority youth, and which programs are demonstrating the most impact.
- Identify best practices or strong models for serving high school youth and implement them in Community School High Schools.
- Link data for youth served by multiple initiatives, for example, youth in OST who use health resources, or youth who were in both an OST and a summer school program.
- Adopt and implement a validated tool like the California Healthy Kids Survey to measure social / emotional outcomes for out of school time youth.

Family League Out of School Time Programs in Baltimore City

Linda S. Olson, Faith Connolly, and Alok H. Kommajesula

Background

The Family League and its partners have been working for over 10 years to increase the quality and quantity of out of school time (OST) programs in Baltimore City. They believe that OST programs are very important to the development of Baltimore’s children and youth. Besides providing a safe, nurturing environment during the time of day when children are more likely to be unsupervised (after school from 3 p.m. – 6 p.m. and weekdays during the summer) they help youth develop academically, physically, and socially/emotionally, increasing the likelihood that youth will attend and succeed in school, and graduate high school college and career ready.

Research has identified chronic absenteeism as an early warning indicator for school failure (BERC, 2011). For this reason, the broad Baltimore City community including the Mayor’s Office, Baltimore City Schools, the Family League and many others, have identified reducing chronic absenteeism as a primary goal for improving school success and increasing high school graduation. While Baltimore City Schools has made strides to improve attendance and decrease chronic absenteeism (see chart below), this remains a critical area of focus.

Percent of Baltimore City Students Who Were Chronically Absent by
Grade Span for 2009-10 through 2011-12

Grade Span	2011-12	2010-11	2009-10
Elementary(1-5)	13.2%	16.3%	13.9%
Middle (6-8)	15.9%	16.4%	17.5%
High (9-12)	41.3%	42.2%	41.9%

Source: MDreportcard

Chronic absenteeism may signal family challenges, economic hardship such as homelessness, unemployment, poor student, sibling or parent health, student disengagement and other obstacles. Research has shown that high quality afterschool programs can improve school-day attendance (Huang, Gribbons, Kim, Lee, & Baker, 2000; Welsh et al., 2002). The Family League has been working with the Baltimore Education Research Consortium for the past three years to evaluate the impact of participation in out of school time programs and key youth outcomes, including school attendance.

The Family League of Baltimore City

The Family League is a nonprofit organization that convenes, coordinates and funds programs to strengthen the lives of children and families in Baltimore City. Their mission is to improve the lives of Baltimore’s children from birth to the time they enter adulthood and begin careers. Every day, Family League programs touch the lives of thousands of children and families. As Baltimore City’s local management board, the Family League occupies a unique role in the city,

bringing together public and private dollars and a wide range of partners to fund effective social service programs. By using evidence-based approaches, along with analyzing data and program results, the goal is to make smarter investments in programs that work, supporting the most successful initiatives to best support Baltimore's families and children.

The Family League coordinates major initiatives, brings together a range of partners and fashions new approaches to the urgent problems facing Baltimore children and families. The Family League aims to use state and city funding wisely, leveraging millions in federal and private funds to improve the lives of thousands of city children and families. Family League's strong relationships with the city and the state, as well as with nonprofits, foundations, universities and businesses, make it an essential organization to bring diverse groups together to accomplish change in Baltimore.

Out of School Time Programs

The Family League, with support from the City of Baltimore, the State of Maryland, local foundations and community partners, has a long history of strong investment in and support of quality out of school time programs throughout Baltimore City. Over the past 12 years, more than \$60 million has been invested to serve an average of over 5,000 youth annually. The logic model (see Appendix A) guiding the work of the Family League's OST investment asserts that engaging youth in high quality OST programs will support improved youth outcomes. Target outcomes for OST participants include:

- Improved school attendance and reduced chronic absenteeism
- Improved school academic performance
- Reduced incidents of negative behaviors
- Improved health/fitness
- Improved attitudes, relationship skills and resiliency/grit

Through a 3-year grant from the Wallace Foundation, the Family League has been working with community partners to strengthen the system supporting OST programs, and they believe that positive youth outcomes will result if the OST system provides the following support:

- OST programs work as part of a Community School strategy that strengthens their connection to and impact on school outcomes;
- Programs adhere to quality standards / best practices and implement core program components: academic support, art enrichment, physical fitness/recreation, and the serving of nutritious meals daily;
- OST programs are engaged in an ongoing youth program quality intervention system (YPQI) that includes program assessments, planning, and professional development / coaching support;
- OST programs and their Community School partners are supported through a stronger data collection / evaluation system that helps them better: drive timely outcome improvement efforts; demonstrate investment impact and inform investment decisions.

Innovations

The Family League has embarked on three exciting innovations that they believe will increase their impact on positive youth outcomes.

Community School Engagement Strategy. In FY13 the Family League implemented a new strategy that interwove the previously independent network of Community Schools (CS) and Out of School Time (OST) Programs. Community Schools are a network of partnerships between the school and other community partners that promote student achievement and family and community well-being through the intentional coordination of needed resources and services. Baltimore City Schools partners with the Family League at each school. Community Schools have a full time Community School Coordinator that is funded through Family League.

For the 2011-12 school year, there were 20 Community Schools in Baltimore. A number of these had funded out of school time programs, but there was not an intentional, facilitated partnership between the two initiatives. In the 2012-13 school year, the Family League funded 38 Community Schools and every Community School that serves elementary and/or middle school students (33 of the 38 schools) also had a funded OST program. Additionally, Community Schools have a commitment of support from the school principal and are included in key school teams, such as the Student Support Team and the School Family Council. As part of this aligned strategy, Community Schools Coordinators, in partnership with the schools, are able to better support OST programs to enroll students who need and would benefit the most from participation, so that OST programs can better support school improvement.

Expanded Schools. The Family League also partnered with City Schools to participate in the Expanded Schools National Demonstration Project, led by The After School Corporation (TASC). In Baltimore, three Expanded school sites are in the process of expanding the school day by three hours for the whole school population. As a result, all students will receive the benefits of expanded learning time in areas of academics, arts, physical fitness and nutrition. These schools will have increased scheduling flexibility allowing them to innovate in how they use their school facilities and engage support from educators in the community.

Inclusion. The Family League, along with its partners the Maryland Out of School Time Network (MOST) and the Maryland Disability Law Center, are working to support OST programs to better include youth with disabilities in their programs. City Schools' attendance data for students receiving special education services show their attendance is lower than that of the student body as a whole. To better engage and increase opportunities for academic success, recruitment for these students is a growing priority. Previous OST evaluations have shown that while OST programs have reached youth who are eligible for Free and Reduced Meals (FARMS) at a high rate, they have not been as successful reaching youth who receive special education services. In the 2012-13 school year, training was provided to build program awareness and capacity to serve these youth, and support resources were made available. For 2013-14, support will be intensified in 10 pilot community school sites where there is a high percentage of youth with disabilities.

Methodology

This report focuses on the OST goals that can be measured with existing administrative data:

- Program enrollment,
- School Attendance during 2011-12 and through three quarters of 2012-13,
- Promotion to the next grade, and
- Course grades for those students in grades 6 through 9 in 2012-13.

Research Questions

The research questions addressed in this study include:

Demographics

- Who enrolled in the Family League OST program in 2011-12?
- Who regularly attended the program (i.e. met the participation threshold) in 2011-12?
- Who did not attend regularly?

Student Outcomes

- Did students who regularly attended a Family League funded OST program in 2011-12:
 - Have higher levels of attendance that year?
 - Did new recruits show a change in attendance?
 - Maintain higher rates of attendance in the following year (2012-13)?
 - Get promoted to the next grade more than their peers?
 - Earn higher course grades in 2012-13?
- Does two years of regular OST participation have a greater impact than one year?

Data Sources

The Family League and Baltimore City Schools provided data for this study. Family League OST student data system, Efforts to Outcomes (ETO), provided data for school years 2010-11 and 2011-12. The Family League also provided data on number of seats available for each program, program length, and focus of services such as academic or activity related. Data from the City Schools student management system (SMS) include additional attendance, suspensions and academic measures. City Schools also provided report card data for 2012-13, as well as Maryland School Assessment (MSA) results for 2010-11 and 2011-12. See Appendix B for further information on file development.

Inclusion in Outcome Analysis

Only students meeting the threshold exposure as defined by the Family League staff working with the OST programs are included in the outcome analyses. The threshold was determined as a level of participation required before staff perceived there might be a change in student behavior (see Appendix B for details). Students who met this participation threshold are referred to in this report as OST regular attenders. Overall, 2,893 students were OST participants, and of these, 2,089 participants (72.2%) met the participation threshold and were included in the outcome analysis. On average the students who did not meet the threshold attended OST programs for 36.1 days compared to 121.7 days for the regular attenders.

Propensity Score Matching

We used propensity score matching to establish comparison groups of students who resembled the OST regular attenders. Matched student sets were developed in two ways. All students were matched using demographic data, grade in school, 2010-11 attendance, and suspensions. In addition, comparison students were selected *from the same school* as the OST participant; a second match selected comparison students from the same grade but selected *from any school* that also offered OST programs and had students who met the OST dosage requirements.

The rationale for matching students from the same school was to capture “non-observables” such as family support of education and values, assuming families in the same schools made similar choices for neighborhoods and schools. The across-district match, on the other hand, relaxed the same school requirement and thus allowed for a more exact match on the known student background data. We used both sets of matches to provide a richer examination of the outcome data and a deeper interpretation of the findings.

The same school match did not produce a comparison group that was equivalent to our OST sample in terms of special education and attendance, so to adjust for this, we regressed each of the outcome measures on the background covariates in the matching procedure, thus controlling for any observable differences that still remained between the two groups. With this additional statistical control, any differences that remain statistically significant are better substantiated. See Appendix B for full description of propensity score matching procedures and results.

Definitions

School Attendance is measured in several different ways:

Average Daily Attendance (ADA) is defined using MSDE’s methodology as average daily attendance, calculated as the number of days attended divided by the number days enrolled in City Schools.

Chronic Absence is defined by MSDE as students enrolled for at least 90 days who miss more than 20 days. In this report, we define chronic absence as missing more than the equivalent of one-ninth of days (or 20/180) of days on roll.

Severe Chronic Absence is defined by MSDE as students missing more than 40 days a school year. It is operationalized in this report as missing more than the equivalent of two-ninths (or 40/180) of days on roll.

High attendance is defined by MSDE as students who miss fewer than 5 days per school year. It is operationalized in this report as having an ADA greater than 97.2% (or 175/180).

Limitations

One of the biggest challenges of this report is capturing non-observables such as student and family motivation, parent commitment, and support for education -- all factors that would affect enrolling in an OST program. These students will likely attend more and outperform their peers because of their different family and community cultures, and we cannot control for these differences. A lottery design would provide an opportunity to control for that but such data are not available.

Propensity score matching partly overcomes these challenges because students are matched on available administrative data. Propensity score matching is less robust than a randomized, experimental design that would allow for causal inferences. Since the students in the current study were not randomly assigned to the program no causal statements about its effects can be made. Therefore we are cautious in interpreting our findings.

Another challenge to our interpretation of results is our inability to know if our comparison students participated in other out-of-school-time programs not sponsored by Family League.

Findings

In this section we respond to each of the research questions identified in the methodology.

Students Enrolled in Family League OST in 2011-12

In 2011-12, 3,523 students from kindergarten through grade 12 enrolled in 64 Family League sponsored OST programs in 48 schools. The most striking demographic feature of the OST programs in 2011-12 is the underrepresentation of boys, especially in the middle grades (see Table 1).

OST programs enrolled a higher percentage of students qualifying for FARMS than the district as a whole (92.4% compared to 84.5%, respectively). In 35 of the 47 OST programs serving single schools, OST programs enrolled more students qualifying for FARMS than the school overall (see Appendix C, Table C1). Only 1 program served multiple schools.

Table 1
Baltimore City Family League OST Students
Enrolled in 2011-12 by Gender and Grade

Grade	Enrolled OST		
		Female	Male
2011-12	N	%	%
K	206	40.8	59.2
1	325	52.0	48.0
2	364	53.3	46.7
3	370	48.6	51.4
4	348	49.4	50.6
5	401	58.9	41.1
6	312	64.1	35.9
7	406	61.3	38.7
8	296	68.9	31.1
9	115	42.6	57.4
10	146	52.1	47.9
11	142	52.1	47.9
12	92	55.4	44.6
Total	3523	55.0	45.0

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

The OST programs were less successful recruiting students receiving special education services. The rate of OST students receiving services was 13.3% compared to City Schools' average of

16.5%. Yet, 19 of the 47 OST programs serving single schools recruited a larger percent of students receiving special education services than the school’s average (see Appendix C, Table C1).

Students Regularly Attending in 2011-12

Outcome analysis was conducted on students who met a threshold of attendance established by the Family League to identify the level of exposure to programming sufficient to see a difference in behavior. Below we describe those students.

Gender. The gender difference was smaller for OST regular attenders, with a 48.4% to 51.6% male to female ratio. There was a consistent female majority in grades 5 to 8 (see Table 2).

Table 2
Baltimore City Family League 2011-12 OST Regular Attenders by Grade and Gender

Grade 2011-12	OST Regular Attenders		
	N	% Female	% Male
K	159	42.1	57.9
1	257	52.1	47.9
2	258	55.4	44.6
3	275	50.2	49.8
4	257	46.3	53.7
5	258	57.0	43.0
6	121	57.0	43.0
7	154	53.2	46.8
8	111	55.0	45.0
9	54	44.4	55.6
10	80	53.8	46.3
11	49	49.0	51.0
12	56	46.4	53.6
Total	2089	51.6	48.4

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

Race/Ethnicity. African American students were more likely to be OST regular attenders (92.7% compared to 85.9% for City Schools) and Hispanic students were regular attenders in OST programs at roughly the same rate as the City Schools population (3.6% compared to 4.8%). (See Appendix C for full background data on OST participants by level of attendance in the programs.)

Free and Reduced Price Meals. OST regular attenders were more likely to be eligible for FARMS than the City Schools average (93.5% compared to 84.5). In 36 of the 47 OST

programs serving single schools, a higher percentage of OST regular attenders qualified for FARMS than the school overall (see Appendix C, Table C1).

Special Education Services. Compared to the district as a whole, OST regular attenders received services at a lower rate (11.6% compared to 16.5%). Not surprisingly, more than half, or 26 of the 47 OST programs serving single schools, had a lower percentage of OST regular attenders receiving special education services than the school overall (see Appendix C, Table C1).

Students Who Were Not Regular Attenders

Students who were not included in outcome analysis because they did not meet the OST participation threshold were more likely to be African American or Hispanic and receive special education services. They were also more likely to have been chronically absent in school in both 2010-11 and 2011-12. (See Appendix C, Table C5.)

Table 3
Baltimore City Family League 2011-12 OST Students in 2011-12
Eligible Participants Compared to Regular Attenders by Grade

Grade	OST Eligible Participants*	OST Regular Attenders	% OST Regular Attenders
2011-12	N	N	%
K	187	159	85.0
1	309	257	83.2
2	341	258	75.7
3	339	275	81.1
4	325	257	79.1
5	366	258	70.5
6	211	121	57.3
7	241	154	63.9
8	172	111	64.5
9	83	54	65.1
10	119	80	67.2
11	122	49	40.2
12	78	56	71.8
Total	2893	2089	72.2

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

*Excludes students who attended programs providing less than 80 days of service or students who did not attend City Schools for full year.

More middle and high school students did not meet the OST participation threshold than elementary students—78.4% of K-5 enrollees attended OST regularly compared to 61.9% of

middle school and 59.5% of high school students (see Table 3). The reasons for not attending are not currently known.

In Table 4 we compare the school attendance profiles in 2010-11 and 2011-12 of students who met the OST participation threshold and those who did not meet the threshold. Not surprisingly, those who did not attend enough to meet the threshold for inclusion in outcome analyses were more likely to have been chronically absent in 2010-11. Elementary students, both regular and non-regular OST attenders, had higher school attendance levels in 2011-12, i.e. more high attenders and fewer chronically absent students. Secondary students had little change.

Table 4
Attendance in 2010-11 and 2011-12 for Regular and Non-Regular OST Attenders
Who Were in City School in Both 2010-11 and 2011-12

School Attendance %	OST Regular Attenders		Non-Regular OST		All Eligible OST Enrollees	
	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12
<i>Grades K-5</i>						
High Attenders	34.4	44.4	21.9	32.4	31.7	41.8
Medium	52.9	48.4	57.4	53.8	53.9	49.6
Chronic Absent	11.6	6.6	18.3	12.0	13.0	7.8
Severe CA	1.1	0.6	2.3	1.8	1.4	0.8
	(N=1388)		(N=383)		(N=1771)	
<i>Grades 6-8</i>						
High Attenders	41.9	46.2	37.9	38.4	40.4	43.2
Medium	49.3	45.6	46.6	43.1	48.3	44.7
Chronic Absent	7.4	6.6	12.5	10.8	9.4	8.2
Severe CA	1.3	1.6	3.0	7.8	2.0	3.9
	(N=377)		(N=232)		(N=609)	
<i>Grades 9-12</i>						
High Attenders	18.7	16.0	18.1	16.9	18.4	16.4
Medium	47.1	46.7	46.9	45.6	47.0	46.2
Chronic Absent	24.0	24.0	23.8	18.8	23.9	21.8
Severe CA	10.2	13.3	11.3	18.8	10.6	15.6
	(N=225)		(N=160)		(N=385)	
<i>All Grades</i>						
High Attenders	34.1	41.5	25.9	31.0	31.8	38.6
Medium	51.1	47.7	52.0	48.9	51.7	48.0
Chronic Absent	12.2	8.6	17.7	13.0	13.7	9.8
Severe CA	2.2	2.2	4.4	7.1	2.8	3.6
	(N=1990)		(N=775)		(N=2765)	

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

Students Outcomes

For the remainder of the report, OST regular attenders (students who met the participation threshold) are compared with statistically matched groups of students. The comparisons are made two ways:

(1) Same School which compares OST regular attenders to a comparison group drawn only from students attending the same school. Matches could not be found for all OST students so the number of students in the same school analyses is less than the total number of students, and

(2) Across Schools which compares OST regular attenders to a comparison group from the same grade but drawn from any school across the district that enrolled OST regular attenders. All OST students are included.

As noted earlier, the failure of the Same School matches to attain equivalence on all of the matching covariates (particularly 2010-11 attendance) prompted us to perform robustness checks on all outcomes; that is, we regressed each of the outcome measures on the background covariates in the matching procedure, thus controlling for any differences that still remained between the two groups.

Attendance in 2011-12

A key outcome for Family League OST programs is school attendance. Comparing to similar peers who attended their same school, or attended schools across the district, regular OST attenders had significantly higher attendance in 2011-12. We compared to students in the same school to better control for non-observables (selection criteria and priorities that led families to be in that school) and across the district to provide closer matches on the observable data in our data set.

The within school comparisons include fewer students because the pool for matching students was smaller and not all students could be matched. Regular attenders, students who met the OST participation threshold, had higher rates of school attendance when compared to similar peers from their schools (95.0% compared to 93.0%) and across the district (94.9% compared to 94.0%) (see Table 5). These differences are not significant among high school students. As an additional check, we also controlled for prior academic performance using Maryland School Assessments (MSA) scores in English and math from 2010-11. Regular OST attenders continued to have a significantly higher level of attendance, whether measured as average daily attendance, chronic absence or high attendance (see Appendix D, Table D4).

Table 5
Measures of School Attendance for Students in Kindergarten through Grade 12
for OST Regular Attenders and Comparable Students in Same School and Across District

Outcomes 2011-12	Same School~		Across Schools	
	Regular Attenders %	Comparison Group %	Regular Attenders %	Comparison Group %
<i>Grades K-5</i>				
Attendance	95.7*	93.8	95.7*	94.8
Chronic Absence	7.0*	15.2	6.9*	9.9
Severe Chronic Absent	0.5*	3.0	0.5*	1.5
High Attenders	44.5*	31.5	44.3*	35.7
(N)	(1292)	(1292)	(1299)	(1299)
<i>Grades 6-8</i>				
Attendance	96.0*	93.9	95.7	94.9
Chronic Absence	7.1*	14.7	8.3	11.1
Severe Chronic Absent	0.3*	3.2	1.4	2.5
High Attenders	47.8*	34.0	46.1	43.9
(N)	(312)	(312)	(362)	(362)
<i>Grades 9-12</i>				
Attendance	87.1	84.5	87.1	85.6
Chronic Absence	40.1	46.9	40.1	40.1
Severe Chronic Absent	13.0	20.4	13.0	20.4
High Attenders	12.4	16.7	12.4*	22.2
(N)	(162)	(162)	(162)	(162)
Total – All Grades				
Attendance	95.0*	93.0	94.9*	94.0
Chronic Absence	10.0*	18.0	10.1*	12.8
Severe Chronic Absent	1.6*	4.6	1.8*	3.3
High Attenders	42.1*	30.6	41.9	36.1
(N)	(1766)	(1766)	(1823)	(1823)

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.
~ Comparison groups within the same school did not attain baseline equivalence in 2010-11 attendance.
* significant at 95% confidence level

A comparison of school attendance in 2010-11 and 2011-12 by attendance categories (see Figure 1) for OST students and comparable peers shows the number of chronically absent OST students drops significantly, 3.5 percentage points or from 248 students to 185 compared to a 0.2 percentage point drop or a reduction from 236 to 233 for comparable peers across the district. We compared across the district as it includes a larger sample of students for comparison and the two groups better matched on attendance in 2010-11.

Figure 1. Number and percent of students by attendance categories in 2010-11 and 2011-12 for OST regular attenders and comparable peers across the district.

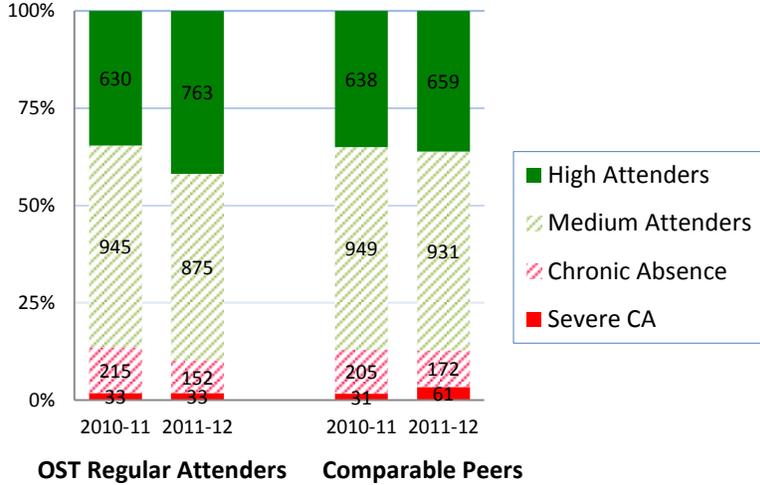
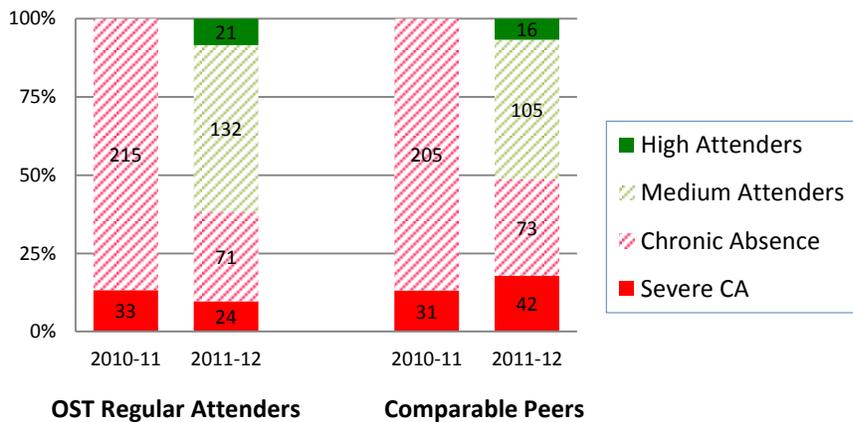


Figure 2 displays 2011-12 attendance categories for students who were chronically absent in 2010-11. The second bar describes their attendance in 2011-12. Almost two-thirds (61.7%) of regular attenders, students who met the participation threshold, are no longer chronically absent compared to half (51.3%) of their comparable peers, a statistically significant difference. Furthermore, 75.8% of these OST students were not chronically absent the following year (2012-13, not presented).

Figure 2. Number and percent of students by attendance categories in 2011-12 for students chronically absent in 2010-11 for regular OST attenders and comparable peers across the district



Attendance of New OST Participants

Next we examined students who first participated in any OST program in 2011-12. These *new recruits* had significantly higher school attendance in the year of OST participation (2011-12), than comparable peers, whether measured by average daily attendance, chronic absence or rate of high attendance (see Table 6).

Table 6
Measures of Attendance in 2011-12 for Students in Grades K-12 for Newly Recruited OST Regular Attenders and Comparable Students in Same School and Across District

Outcomes 2011-12	Same School~		Across Schools	
	Regular Attenders	Comparison Group	Regular Attenders	Comparison Group
	%	%	%	%
Total – All Grades				
Attendance	94.2*	92.0	94.2*	92.4
Chronic Absence	12.1*	19.5	12.2*	17.9
Severe Chronic Absence	2.7*	7.5	2.7*	5.8
High Attenders	35.2*	29.6	35.2	31.7
(N)	(948)	(948)	(954)	(954)

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

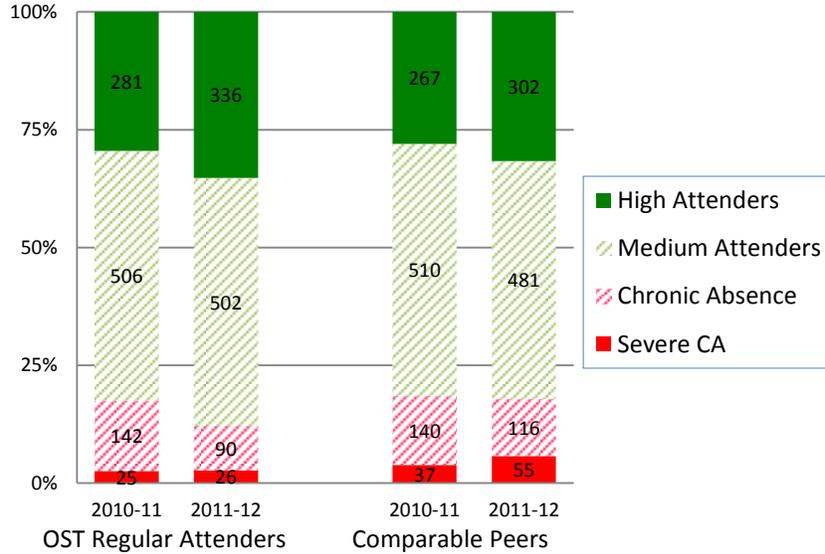
~ Comparison groups within the same school did not attain baseline equivalence in 2010-11 attendance.

* significant at 95% confidence level

To provide a different perspective we next looked at these students by school attendance categories. These newly recruited OST students who met the participation threshold are significantly less likely to be chronically absent in 2011-12 than comparable peers across the district, a 5.3 percentage point drop in chronic absence compared to a 0.6 drop for the comparison group. (See Figure 3.)

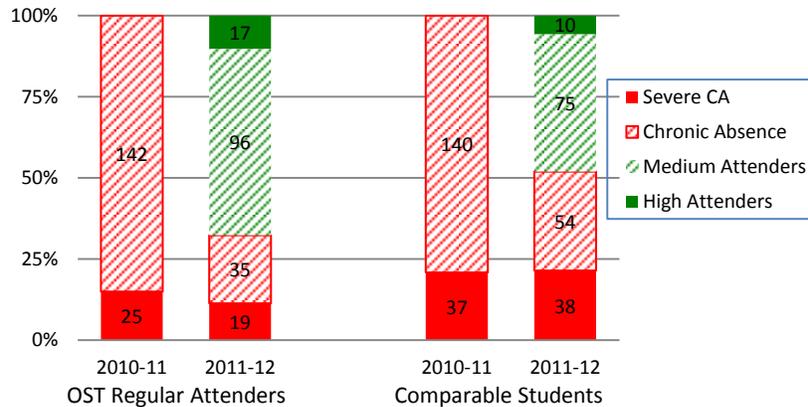
We compared across the district as it includes a larger sample of students for comparison. This change in attendance may reflect a change in participation in OST, or may reflect a change in family or life circumstances that made both school attendance and participation in an OST program more likely.

Figure 3. Number and percent of students by attendance categories in 2010-11 and 2011-12 for new recruits who regularly attended OST and comparable peers across the district.



In Figure 4 we examine those students who were chronically absent in 2010-11. The majority of newly recruited OST regular attenders (67.7%) were no longer chronically absent in 2011-12 while roughly half (48.0%) of the comparable students continued to be chronically absent. Additionally, 80.8% of these OST students maintained this level of attendance (not chronically absent) into the following year (2012-13).

Figure 4. Number and percent of students by attendance categories in 2011-12 for students chronically absent in 2010-11 for new recruits who regularly attended OST and comparable peers across the district.



Attendance in 2012-13

These same attendance patterns continued into the following year. OST regular attenders, students who met the participation threshold, maintained significantly higher levels of school

attendance in 2012-13 compared to their peers in the same schools or across the district (see Table 7).

Table 7
Measures of Attendance in 2012-13 for Students in Kindergarten through Grade 12 for OST Regular Attenders and Comparable Students

Outcomes 2012-13	Same School~		Across Schools	
	Regular	Comparison	Regular	Comparison
	Attenders	Group	Attenders	Group
	%	%	%	%
<i>Grades K-5</i>				
ADA	95.4*	93.7	95.4*	94.7
Chronic Absence	9.5*	16.1	9.7	11.6
Severe Chronic Absence	1.0*	3.2	1.0*	2.1
High Attenders	46.2*	35.3	46.0*	40.7
(N)	(1292)	(1292)	(1299)	(1299)
<i>Grades 6-8</i>				
ADA	94.0*	91.6	92.9	91.7
Chronic Absence	14.1*	22.8	17.4	19.3
Severe Chronic Absence	2.6*	7.4	3.6*	8.0*
High Attenders	43.6*	34.3	38.7	36.7
(N)	(312)	(312)	(362)	(362)
<i>Grades 9-12</i>				
ADA	82.1	80.7	82.1	79.7
Chronic Absence	45.7	51.2	45.7	47.5
Severe Chronic Absence	25.9	34.0	25.9	28.4
High Attenders	18.5	17.3	18.5	19.8
(N)	(162)	(162)	(162)	(162)
<i>Total – All Grades</i>				
ADA	93.9*	92.2	93.7*	92.8
Chronic Absence	13.6*	20.5	14.4	16.3
Severe Chronic Absence	3.6*	6.7	3.7*	5.6
High Attenders	43.2*	33.5	42.1*	38.0
(N)	(1766)	(1766)	(1823)	(1823)

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

~ Comparison groups within the same school did not attain baseline equivalence in 2010-11 attendance

* significant at 95% confidence level

These attendance differences are significant for students in K through grade 8, but not high school students. The differences in K through grade 8 were still significant when tested for robustness.

Of particular note, the higher attendance rates were present among entering 6th and 9th graders when compared to their peers in the same school. That is, students in 5th and 8th grades in 2011-12 showed higher school attendance through the first three quarters of 2012-13 as they were transitioning into middle school and high school, respectively.

However, since we do not know which of the OST students continued to participate in OST programs in 2012-13, these results should be viewed with caution.

Promotion

These positive trends in attendance appear to translate into higher rates of promotion (see Table 8). Regular OST attenders were significantly more likely to be promoted compared to peers from their schools and across the district. Promotion rates were significantly higher in grades K through 8, and high school students had a higher credit accrual rate. Robustness checks confirmed significant differences.

Table 8
Promotion Rates for OST Regular Attenders in Kindergarten through Grade 12 and Comparable Students in the Same School and Across the District

% Promoted 2012-13	Same School		Across Schools	
	Regular Attenders	Comparison Group	Regular Attenders	Comparison Group
Elementary	98.4*	97.2	98.4*	97.1
Middle	99.4*	96.5	99.2*	94.8
High	87.0*	78.4	87.0	80.9
All Grades (N)	97.5* (1766)	95.4 (1766)	97.5* (1823)	95.2 (1823)

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data, and Quarter 2 report cards.

~ Comparison groups within the same school did not attain baseline equivalence in 2010-11 attendance

* significant at 95% confidence level

2012-13 Course Grades

For students entering grades 6 through 9 in 2012-13, OST regular attenders, students who met the participation threshold, had higher grades mid-year in math courses compared to their peers in the same schools but not compared to peers across the district; a robustness check did not confirm the significance of the difference in math. Other course grades yielded no significant differences. The comparisons controlled for prior academic performance (MSA scores in English and math). Sample sizes vary as not every student takes every subject each term.

Table 9
 Mean First Semester Course Grades for 2011-12 OST Regular Attenders
 Entering Grades 6 through 9 in 2012-13 and Comparable Students

Mean Grades	Same School Mean (N)		Across Schools Mean (N)	
	Regular Attenders	Comparison Group	Regular Attenders	Comparison Group
English	73.8 (533)	73.2 (530)	73.4 (585)	73.0 (578)
Math	72.9* (522)	71.2 (522)	72.0 (574)	72.9 (569)
Social Studies	73.3 (436)	73.7 (427)	73.2 (455)	74.5 (456)
Science	72.4 (484)	72.5 (469)	72.3 (526)	74.2 (506)

Source: Family League 2011-12 OST Data and City Schools Enrollment, Attendance Data, and first quarter report cards.

~ Comparison groups within the same school did not attain baseline equivalence in 2010-11 attendance

* significant at the 95% confidence level

Students Who Attended Two Years of Family League Sponsored OST

To determine if continuous participation over two years might have a greater influence on students’ performance and behaviors, we identified regular attenders, students who met the Family League OST participation threshold in 2010-11 and 2011-12, and compared them to students who met the threshold for one year (2011-12).

Demographics. A total of 807 students (27.9% of 2011-12 eligible OST participants) regularly attended OST programs for two years, 2010-11 and 2011-12. Two-year OST participants were somewhat less likely to be boys, but otherwise resembled OST participants who were regular attenders for one year; that is, they had similar levels of FARMS and Special Education (see Table 10).

Attendance. When we controlled for students’ background characteristics and their 2009-10 school attendance and MSA scores, the two-year OST regular attenders had significantly higher levels of attendance in 2011-12 than the one-year regular attenders; they were not significantly less likely to be CA. These differences are not unexpected since the continuity in regular OST attendance over two years would suggest higher levels of school attendance.

Again, we caution against interpreting this as causation because our definition of regular attendance assures that OST participants have higher rates of attendance. However, these differences did not continue into the following year. The two-year regular attenders did not have higher attendance through the third quarter of 2012-13.

Table 10
 Demographic Characteristics of
 Students Who Regularly Attended OST for One Year and Two Years

	One-Year (N = 1052) %	Two-year (N = 807) %
Male	50.4	45.4*
African American	92.1	93.6
Hispanic/Latino	4.5	4.1
FARMS, 2011-12	93.5	93.6
Special Ed, 2011-12	11.9	11.3

Source: Family League 2010-11 and 2011-12 OST Data and City Schools Enrollment and Attendance Data.
 * significant at 95% confidence level

Promotion. The two-year OST participants were not more likely to be promoted than the one-year attenders.

2012-13 Course Grades. There was no significant difference in the mid-year course marks for the one-year and two-year regular participants.

We do not know which of the OST students continued to participate in OST programs in 2012-13, so the lack of differences in attendance and course marks in 2012-13 is difficult to interpret.

Discussion and Recommendations

This analysis is dependent on the quality of data from individual programs. Evaluating student outcomes is also a challenge because of the self-selection of participants. Students and families who opt into these programs are likely different from those who do not. For this reason finding comparable students is extremely challenging as these differences due to self-selection are not observable, i.e., students' and parents' value of education, desire for success, motivation, and determination are not measured and included in analyses. Propensity score matching only partly overcomes these challenges. For this reason we are cautious in interpreting our findings.

The Family League's 2011-12 Out of School Time (OST) program enrolled 3,523 students in kindergarten through grade 12, in 64 Family League sponsored OST programs in 48 schools. Over half (57.2%) of the enrolled students were in the elementary grades (Kindergarten through grade 5). Enrolled students qualified for Free/Reduced Price Meals (FARMS) at higher rates than the district and their school, were less likely to be receiving special education services, more likely to be chronically absent, and less often male.

Outcome analysis was conducted on students who met a threshold of exposure to the program as determined by Family League.

Of those eligible, 72.2% attended OST programs enough to be included in outcome analyses. This left more than a quarter (27.8%) of students out of the outcome analysis. Those who did not meet the participation threshold were more likely to be African American or Hispanic, receive special education services, and be in secondary grades. They were also more likely to have been chronically absent in the previous year (2010-11).

The specific reasons for not attending are not currently known and are something OST staff should investigate to increase students' engagement and attendance in the program. Specifically, the lower rate of regular OST attendance among students receiving special education services is especially problematic as these are students who could most benefit from the extra resources and support.

Our analysis suggests that students in grades K through 8 who attended OST regularly had higher rates of school attendance during the 2011-12 school year, and through the first three quarters of the next school year than comparable peers who attended the same schools. While we cannot attribute this to the OST program, we can say that the evidence is encouraging and suggests that schools should urge students to participate in OST programs. The continued higher rates of attendance into the next school year may suggest that once established, attendance behavior persists into the next school year. Furthermore, targeting students with poorer attendance may benefit both the child and the school.

For newly recruited students who were chronically absent prior to participation in OST, they had higher rates of school attendance and fewer students were chronically absent again. That may indicate that OST participation supported increased attendance or may reflect changed family circumstances resulting in more support for school. These could be finding a job, better access to transportation, etc.

Among entering 6th and 9th graders, OST regular attenders had significantly higher attendance during the first half of 2012-13 than comparable peers. These are well known difficult transition points for students, so seeing higher attendance during the transition is heartening and needs to be investigated more fully.

Not surprisingly, higher school attendance rates for OST participants also appear to translate into higher promotion rates—regular OST attenders were significantly more likely to be promoted to the next grade than a comparison group of their peers. Of special note, these benefits extended into high school where OST regular attenders had a higher credit accrual rate than their peers; failure to accrue sufficient credits to advance in grade is a problem throughout City Schools high schools.

We saw little evidence that middle and high school students earned higher grades in academic courses the following year if they attended OST programs. This may reflect the fact that attendance in OST programs declined after grade 5; thus, we are evaluating effects for a small sample of students.

In sum, although students who participate in OST programs had higher rates of school attendance, this analysis cannot make a causal statement that participation increased attendance. What the data do show is that compared to non-OST students who are similar in terms of background characteristics and previous school attendance, the OST regular attenders had higher rates of attendance during that school year, and through the first three quarters of the following school year. This evidence is encouraging and suggests that schools should promote participation in OST programs. The extra supports conferred by participation in after-school programs may enhance academic and social skills as well as physical and emotional health. Ultimately such benefits should increase their attachment to school and their academic performance.

Recommendations

The Family League's OST programs seek to support youth development for City Schools students by offering high quality after-school programs that provide academic enrichment and develop positive attitudes, non-cognitive skills, and resiliency. Ultimately, the goal is for OST participants to graduate from high school with the skills and behaviors to be successful in college and career. Situated in Community Resource Schools, they are able to connect youth and families to services and resources to support these goals. Their target populations are at-risk students from economically disadvantaged homes, students with special needs, and students with a history of chronic absence.

Data quality issues continue to be a challenge in this work. Family League staff should better *monitor data collection* and the accuracy of pupil IDs during the school year, and as part of that process monitor recruitment and the regular attendance of their students. Family League should also consider expanding data collection to other areas of students' lives like health service provision and summer school enrollment.

The Family League should ***develop a recruitment plan to increase enrollment paired with strategies to improve attendance in OST programs for City Schools students who receive special education services***, as these students had lower enrollment and attendance rates. Efforts should be made to identify barriers to enrollment and attendance to inform program practices. These students, who were underrepresented in OST programs in 2010-11 and 2011-12, could benefit from the additional supports provided by OST programs to develop both their academic and social skills.

Recruitment efforts should also ***focus on students with low attendance***. Our evaluation suggests that OST participation may be valuable for chronically absent students. We are unable to say that OST programs cause improved student attendance, but it is reasonable to conclude that regular attendance in these programs enhances attachment to school.

Over a quarter of students (27.8%), enrolled in the program, but did not attend regularly. ***Understanding why these children enrolled, but then chose not to attend*** will help the Family League in recruiting and maintaining high levels of program attendance. These students tended to have lower rates of school attendance and to be receiving special education services, and are hence part of the target population Family League seeks to serve.

There should to be more ***focus on programs aimed at middle and high school students***. Middle and high school students who enrolled in programs were less likely to attend regularly than elementary age students. Middle school is a challenging developmental stage and close attention needs to be paid to attendance and academic performance, which could be precursors to later dropping out of school (BERC, 2011). Students less engaged with school will only fall further behind as they move into high school. There should be special attention paid to programs specific to the needs and interests of middle and high school students.

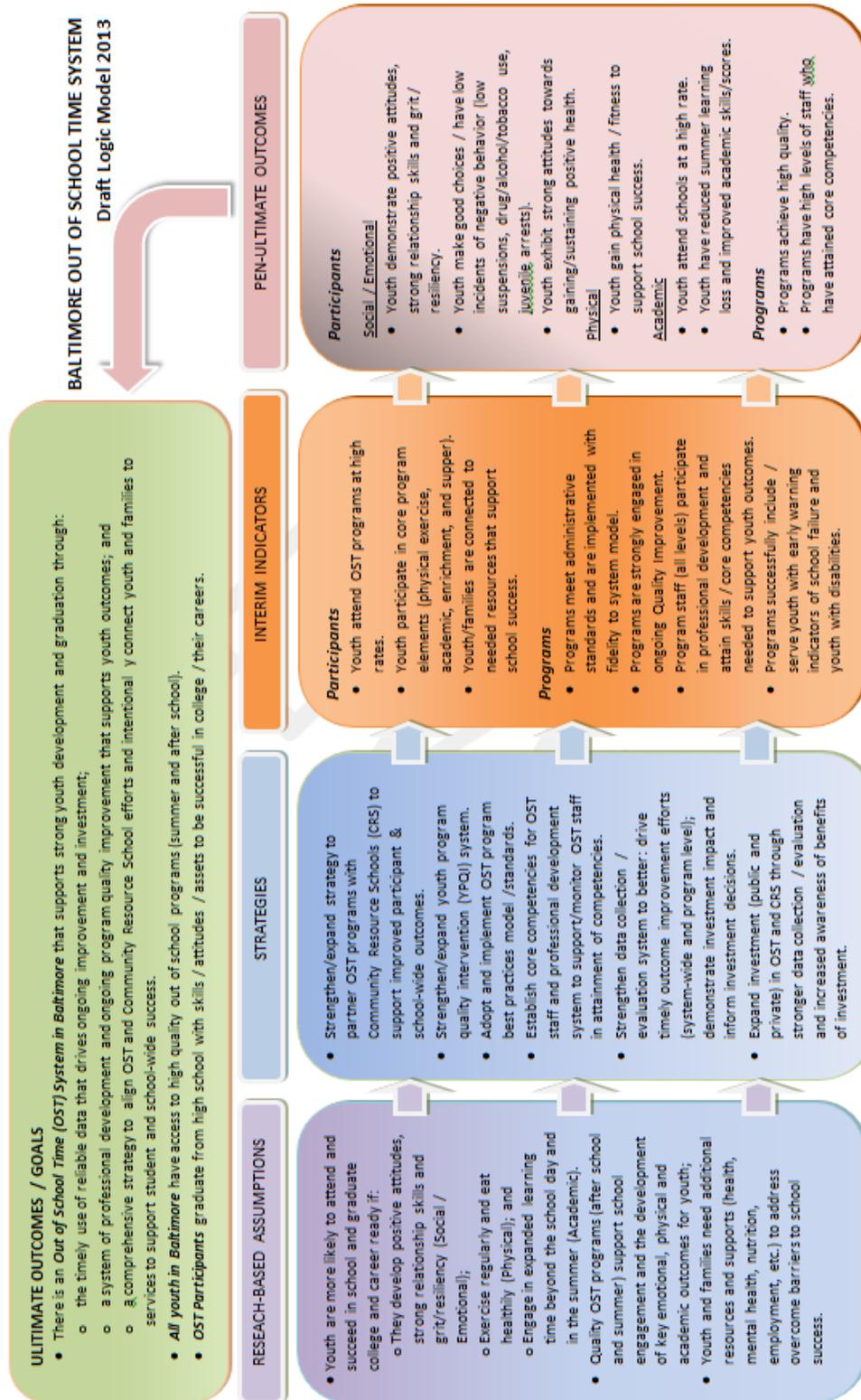
A key goal of the OST program is improving children's social and emotional development and building resiliency, but no measures have been identified to date to document these changes. We recommend that Family League ***adopt measurement tools that assess socio-emotional development***, such as the California Healthy Kids Survey, to determine students' needs and to evaluate how participation in OST impacts students' socio-emotional health.

As Family League collects measures of the quality of OST programs, future evaluations should use these measures to ***monitor the effectiveness of programs*** and understand which types of programs and resources have an impact on the student populations they serve. This will enable OST programs to better recruit and serve City Schools students by providing opportunities to develop the academic, social and non-cognitive skills of students at all grade levels.

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Appendix A: Family League OST Logic Model



Appendix B: Methodology

Data Sources. Data were provided by the Family League student data system, Efforts to Outcomes (ETO), for school years 2010-11 and 2011-12. The Family League also provided data on number of seats available for each program, program length, and focus of services such as academic or activity related. Students with accurate City Schools pupil ID were merged with data from the City Schools student management system (SMS) to include additional attendance, behavior, and academic measures. City Schools also provided report card data for 2012-13, as well as Maryland School Assessment (MSA) results for 2010-11 and 2011-12.

Data File Development. The original file from Family League contained records for 6117 students. We were able to find valid ID matches with the 2011-12 City Schools A-file for 5533 students (90.5%). A total of 319 students had multiple records, i.e. they attended more than one program or attended OST programs in both 2010-11 and 2011-12. Most of the students without a valid ID match attended OST programs only in 2010-11 (N=425); 157 of the missing students attended OST programs in 2010-11.

Examining the file, we noted that in some cases there were two different attendance records for the same student in the same program in the same year. We made the decision to select the highest attendance level for such cases.

For the year 2012 four programs enrolled fewer than 5 students:

- CRA02 Open Minds at Patterson Park Library
- CRA04 Open Minds at Hampstead Hill Academy
- CRA06 at Patterson Park Public Charter
- PPE30 High School Volleyball Sports

These programs are excluded in analyses by program site, but are included in descriptive tables of students attending OST programs in 2011-12. None of the students in these four programs met the “regular” attender threshold.

Data for 114 students enrolled at 7 other sites were also excluded because these sites were no longer funded by Family League in 2011-12:

- EBD02 at East Baltimore
- KBC01 Project Safe Haven
- LCF05 Powerhouse at Living Classrooms
- RPC25 at Performing Arts at Cahill
- UDA01 US Dream Academy
- YMC06 at Robert Coleman Elementary
- AA102 at Hampden Family Center

Since this evaluation pertains to OST participation in 2011-12, only students who attended OST programs in 2011-12 are included; data from OST participation in 2010-11 are only included for students who also attended programs the following year. This evaluation only included students in grades K-12 so 21 Pre-K students were excluded.

Altogether, 3523 students attended Family League sponsored OST programs in 2011-12.

To be included in the outcome analysis, we included students with specific levels of “dosage.” Students are defined as “regular attenders,” if they attend in a given year 80 or more days for programs providing 2 and a half hours of service and 60 or more days for programs providing four or more hours of service as specified in their contracts with the Family League. In addition, students who attended more than one program were classified as “regular attenders” if their total number of days of attendance in all OST programs was at least 80 days.

Most programs provided 2 and a half hours of service; the group of programs providing 4 or more hours included:

- AOC01 at Youth Development Center
- HAB01 at Collington Square
- HAB03 at Edgecombe Circle
- HTA02 Mi Espacio Carrera
- HTA01 Young Executives Carrera
- CCY02 at Benjamin Franklin Jr High
- LAI01 at Loving Arms Solution Center
- BGC04 at CC Jackson Recreation Ctr

Family League acknowledged that this threshold was unobtainable for some programs as their length was too short. This excluded 16 programs serving 470 students from our analysis. An additional 161 students who enrolled after October 1, 2011 or left City Schools before May 1, 2012 were excluded because they were not enrolled in City Schools long enough to meet the threshold. This left a pool of 2,893 participants who could have met the exposure threshold. Of these eligible students, 2,089 participants (72.2%) attended OST programs enough to be included in the outcome analysis. On average the students who did not meet the threshold attended OST programs for 36.1 days compared to 121.7 days for the regular attenders.

The 16 programs that did not provide at least 80 days of service were:

- BTP03 at Guilford Elem-Middle
- BTP05 at Montebello
- BTP07 at Northeast Middle
- BTP08 at Hazelwood Elem-Middle
- CLA03 at Baltimore Talent Development
- CRA02 Open Minds at Patterson Park Library
- CRA04 Open Minds at Hampstead Hill Academy
- CRA06 at Patterson Park Public Charter
- CRA07 at Highlandtown Elementary
- PPE10 Middle School Volleyball Sports
- PPE29 Boys and Girls Soccer Sports
- PPE30 High School Volleyball Sports
- UCT01 at Lake Clifton High
- WAM04 Baltimore Speaks Out at Orleans

- WAM05 Baltimore Speaks Out at Herring Run
- YMC37 at Booker T Washington Middle

In 2011-12, 2089 students were “regular attenders.” A much smaller group of students (807) received a “double dose” of OST services, i.e., they attended programs regularly for two years (2010-11 and 2011-12).

Propensity Score Matching for Comparison Groups

The final treatment group of regular attenders in 2011-12 used to analyze outcomes in 2011-12 included 1823 students in grades K-12 (266 students were excluded because they were missing 2010-11 data).

We used propensity score matching to establish comparison groups of students who resembled the OST treatment groups. Comparison group students were drawn from among all students not in an OST program in either 2010-11 or 2011-12 who attended the same schools as the treatment group of regular attenders. Thus the comparison group was drawn from among 35,784 City Schools students who met the above criteria and had background data available for 2010-11.

We used the ‘MatchIt’ program in R as a matching algorithm, employing “nearest neighbor matching,” choosing the comparison group in two ways. First, we matched exactly on school and grade and with additional covariates: gender, Hispanic, African American, age, homeless, receipt of FARMS and special education services, prior attendance, and suspension history. A second match selected comparison students from the same grade but selected from any school across the district that enrolled students from our treatment group. This technique returned for each treatment student a single control student who, on average, looked like the treatment student in terms of the covariates in the matching model.

The matching procedure requiring an exact match on both grade and school was unable to match 57 of the 1823 treatment students, yielding final treatment and comparison groups of 1766 cases each. Most of the 57 missing cases were from one school; a high percentage of students in this school participated in OST programs so there were few potential comparison group students in this school. The second match that matched exactly only on grade was able to match all 1823 cases.

Comparing results from the two sets of matches (see Table B1), the exact match on grade only produced a comparison group that is not significantly different on any of the matching covariates, but the exact match on both grade and school produced a comparison group that is significantly different from the treatment group in terms of Special Education and attendance. In other words, in some cases there was not a good match available for all cases within a particular school. Although the exact match on grade and school produced a somewhat poorer technical match, we used results from both sets of matches. The match that constrains on school controls some important unknown qualities of the students’ learning environment. So we should consider the results from the two different matching procedures with the understanding of the trade-offs between the two matching methods. As another check on the robustness of the match, we regressed all outcome measures on the original covariates in the matching procedure. If treatment effects are still significant this gives us added assurance of the adequacy of the match.

Table B1
Regular Attenders in 2011-12: Comparison of Matched Samples

Covariates in Matching Model	Grade Exact Match				P-Value	Grade & School Exact Match				P-Value
	OST Non-Participants (N = 1823)		OST Regular Attenders (N = 1823)			OST Non-Participants (N = 1766)		OST Regular Attenders (N = 1766)		
	Mean	SE	Mean	SE		Mean	SE	Mean	SE	
<i>Background Controls</i>										
% Male	47.5	.012	47.1	.012		48.0	.012	46.8	.012	
% Hispanic/Latino	4.8	.005	4.2	.005		3.9	.005	4.4	.005	
% African American	92.2	.006	93.0	.006		93.1	.006	92.8	.006	
% Free/Reduced Price Lunch Eligibility, 2010-11	92.6	.006	92.9	.006		94.1	.006	92.8	.006	
% Special Ed, 2010-11	11.0	.007	10.6	.007		12.7	.008	10.4	.007	*
% Student Homeless, 2010-11	3.3	.004	3.2	.004		3.5	.004	3.3	.004	
% Attendance Rate 2010-11	94.4	.141	94.3	.143		93.2	.153	94.4	.144	*
% Chronic Absence, 2010-11	12.9	.008	13.6	.008		18.8	.009	13.4	.008	*
%Suspended, 2010-11	4.9	.005	5.3	.005		5.9	.006	5.0	.005	
Age on 9/1/2011	9.8	.068	9.8	.069		9.8	.070	9.7	.070	

* significant at the 95% confidence level
 ~ significant at the 90% confidence level

Several additional sets of comparison groups were identified to analyze specific outcomes. These comparison groups were drawn in a similar manner as outlined above.

Our analysis of how attendance was impacted by OST participation for a sample of students who had no OST participation in 2010-11 included 954 regular attenders who were new recruits to the OST program. The exact match on grade and school failed to find matches for 6 students, and it provided a somewhat weaker technical match on the covariates (see Table B2).

Table B2
Regular OST Attenders in 2011-12 and No OST in 2010-11
Compared to Matched Samples

Covariates in Matching Model	Grade Exact Match					Grade & School Exact Match				
	OST Non-Participants (N = 954)		OST Participants (N = 954)		P-Value	OST Non-Participants (N = 948)		OST Participants (N = 948)		P-Value
	Mean	SE	Mean	SE		Mean	SE	Mean	SE	
<i>Background Controls</i>										
Gender	47.8%	.016	49.4%	.016		50.5%	.016	49.4%	.016	
Hispanic/Latino	3.2%	.006	3.5%	.006		3.2%	.006	3.5%	.006	
African American	93.7%	.008	92.9%	.008		93.5%	.008	92.8%	.008	
Free/Reduced Price Lunch Eligibility, 2010-11	90.3%	.010	91.6%	.009		94.2%	.008	91.7%	.009	*
Special Ed, 2010-11	8.5%	.009	11.2%	.010	*	10.7%	.010	11.2%	.010	
Student Homeless, 2010-11	4.6%	.007	4.2%	.006		2.4%	.005	4.2%	.007	*
Attendance Rate 2010-11	92.9	.243	93.4	.218		92.9	.237	93.4	.219	+
Chronic Absence, 2010-11	18.6%	.013	17.5%	.012		19.3%	.013	17.4%	.012	
Suspended, 2010-11	5.9%	.008	5.6%	.007		6.0%	.008	5.6%	.007	
Age on 9/1/2011	9.5	.107	9.5	.107		9.5	.107	9.5	.107	

* significant at the 95% confidence level
 ~ significant at the 90% confidence level

The comparison groups used to examine academic outcomes in 2012-13 added students’ MSA scores in English and math as matching covariates. This reduced the size of the treatment group to 592 since only students in grades 3-8 in 2010-11 had MSA scores; students with “modified” MSA scores were also excluded since their scores were not on the same metric as the students who took the “regular” MSA exam (see Table B3).

Table B3
Regular OST Attenders in 2011-12, Grades 5-9
Compared to Matched Samples (with MSA controls)

Covariates in Matching Model	Grade Exact Match				P-Value	Grade & School Exact Match				P-Value
	OST Non-Participants (N = 592)		OST Participants (N = 592)			OST Non-Participants (N = 540)		OST Participants (N = 540)		
	Mean	SE	Mean	SE		Mean	SE	Mean	SE	
<i>Background Controls</i>										
% Male	43.4	.020	42.9	.020		44.4	.021	41.3	.021	
% Hispanic/Latino	3.2	.007	3.5	.008		3.1	.008	3.9	.008	
% African American	95.4	.009	95.3	.009		95.6	.009	94.8	.010	
% Free/Reduced Price Lunch Eligibility, 2010-11	93.6	.010	94.1	.010		93.7	.010	93.7	.010	
% Special Ed, 2010-11	10.1	.012	11.7	.013		12.2	.014	11.7	.014	
% Student Homeless, 2010-11	3.9	.008	2.5	.006		3.0	.007	2.6	.007	
% Attendance Rate 2010-11	95.3	.202	95.2	.218		94.4	.248	95.4	.219	*
% Chronic Absence, 2010-11	8.8	.012	9.3	.012		11.5	.014	8.5	.012	
%Suspended, 2010-11	7.3	.011	8.3	.011		10.6	.013	7.6	.011	~
Age on 9/1/2011	12.0	.055	12.0	.057		11.9	.059	11.9	.060	
Reading MSA, 2010-11	397.7	1.243	397.8	1.253		395.4	1.341	398.7	1.313	~
Math MSA, 2010-11	408.3	1.388	406.3	1.299		404.0	1.362	407.5	1.366	~

* significant at the 95% confidence level ~ significant at the 90% confidence level
 Note: N's for Q2 marks are lower than for attendance outcomes (N= 455-585; N= 427-533)

The comparison groups for the “double dose” OST students were drawn in a similar manner as outlined above. The 806 students who were high OST attenders in both 2010-11 and 2011-12 were matched with 32,596 City Schools students who met the matching criteria. Again the exact match on grade and school failed to find matches for 13 students, and it provided a somewhat weaker technical match on the covariates (see Table B4).

Table B4
Regular OST Attenders in Both 2010-11 and 2011-12: Comparison of Matched Samples

Covariates in Matching Model	Grade Exact Match				P-Value	Grade & School Exact Match				P-Value
	OST Non-Participants (N = 806)		Double Dose OST (N = 806)			OST Non-Participants (N = 793)		Double Dose OST (N = 793)		
	Mean	SE	Mean	SE		Mean	SE	Mean	SE	
<i>Background Controls</i>										
Gender	44.8%	.018	45.4%	.018		49.7%	.018	45.5%	.018	~
Hispanic/Latino	4.2%	.007	4.1%	.007		4.3%	.007	4.2%	.007	
African American	93.9%	.008	93.5%	.009		93.7%	.009	93.4%	.009	
Free/Reduced Price Lunch Eligibility, 2010-11	92.3%	.009	93.2%	.009		94.6%	.008	93.1%	.009	
Special Ed, 2010-11	10.5%	.011	10.9%	.011		12.6%	.012	10.6%	.011	
Student Homeless, 2010-11	3.0%	.006	2.1%	.005		2.5%	.006	2.1%	.005	
Attendance Rate 2010-11	95.2	.195	95.3	.200		94.4	.197	95.4	.199	*
Chronic Absence, 2010-11	8.6%	.010	8.9%	.010		12.1%	.012	8.6%	.010	*
Suspended, 2010-11	4.7%	.007	4.6%	.007		6.3%	.009	4.3%	.007	~
Age on 9/1/2011	10.2	.103	10.2	.105		10.2	.105	10.2	.106	

* significant at the 95% confidence level
 ~ significant at the 90% confidence level

Appendix C: Demographics

Table C1
 Percent Receiving FARMS and Special Education in 2011-12 for OST Programs Serving One School:
 OST Participants, OST Regular Attenders, School-Wide Average

OST Program Serving One School	OST		% FARMS			% Special Education		
	N	Regular Attenders	OST	OST Regular Attenders	School	OST	OST Regular Attenders	School
ACCE	88	54	69.3	72.2	75.8	21.6	20.4	16.3
Afya Public Charter School	47	46	78.7	78.3	86.1	17.0	15.2	23.3
Armistead Gardens School #243	43	40	100.0	100.0	92.6	11.6	7.5	15.6
Baltimore Talent Development High School	8	5	87.5	80.0	89.5	12.5	20.0	16.4
Barclay Elementary/Middle	103	88	97.1	96.6	93.7	12.6	14.8	11.3
Bay Brook Elementary/Middle	200	163	98.5	98.2	95.0	13.5	12.9	14.8
Benjamin Franklin High School @ Masonville Cove	61	34	91.8	88.2	87.3	23.0	23.5	23.5
Bluford Drew Jemison Stem Academy	16	16	87.5	87.5	83.0	25.0	25.0	13.9
Calvin Rodwell Elementary	142	133	91.5	91.0	88.1	5.6	4.5	10.2
Carver Vocational Technical High	57	34	84.2	85.3	80.5	15.8	17.6	11.9
Collington Square	142	123	98.6	98.4	95.0	13.4	13.0	15.6
Commodore John Rodgers Elementary / Middle	59	55	98.3	98.2	95.0	15.3	14.5	15.9
Dickey Hill Elementary/Middle School	29	29	96.6	96.6	93.1	6.9	6.9	11.3
Dr. Bernard Harris Sr. Elementary School	138	121	100.0	100.0	95.0	7.3	7.4	12.2
Dr. Martin Luther King Elementary/Middle School	89	79	92.1	92.4	95.0	20.2	21.5	19.5
Dr. Rayner Browne	136	119	100.0	100.0	95.0	6.6	5.0	9.5
Edgewood Elementary School	102	92	95.1	94.6	94.5	10.8	9.8	17.2
Franklin Square Elementary Middle	10	10	100.0	100.0	95.0	10.0	10.0	15.7
Frederick Elementary School	125	100	99.2	99.0	95.0	17.6	16.0	13.9
Furman L. Templeton Elementary	19	17	100.0	100.0	95.0	31.6	29.4	13.9
George Washington Elementary	97	80	94.8	95.0	95.0	15.5	16.3	16.4
Guilford ES/MS	20	18	100.0	100.0	94.1	15.0	16.7	14.4
Hampstead Hill Academy	3	3	100.0	100.0	79.8	0.0	0.0	7.9
Harlem Park Elementary/Middle School	29	26	93.1	92.3	95.0	24.1	23.1	16.4
Hazelwood ES/MS	23	21	82.6	81.0	85.6	8.7	9.5	24.4
Heritage High School	52	31	88.5	87.1	86.3	21.2	19.4	22.3
Highlandtown Elementary/Middle School	10	7	100.0	100.0	94.0	10.0	0.0	13.2

continued

Table C1 - continued
 Percent Receiving FARMS and Special Education in 2011-12 for OST Programs Serving One School:
 OST Participants, OST Regular Attenders, School-Wide Average

OST Program Serving One School	OST		% FARMS			% Special Education		
	N	Regular Attenders	OST	OST Regular Attenders	School	OST	OST Regular Attenders	School
Hilton Elementary School	124	121	91.9	91.7	91.3	7.3	7.4	16.4
Inner Harbor East Academy for Young Scholars	118	115	86.4	87.0	87.6	9.3	9.6	7.5
Liberty Elementary	21	15	95.2	100.0	92.9	23.8	26.7	20.4
Lockerman Bundy Elementary	47	46	95.7	95.7	95.0	19.2	17.4	9.5
Margaret Brent Elementary/Middle School #53	50	47	92.0	91.5	90.0	14.0	14.9	15.9
Middle School for the Arts at Booker T. Washington	44	36	95.5	97.2	95.0	15.9	16.7	26.4
Montebello Elementary/Middle	119	102	92.4	93.1	92.5	10.9	10.8	15.9
Morrell Park Elementary/Middle	48	41	93.8	92.7	86.0	18.8	17.1	14.0
National Academy Foundation	41	33	90.2	87.9	84.8	12.2	6.1	17.4
New Era Academy	99	81	87.9	86.4	82.3	9.1	8.6	16.4
Northeast ES/MS	31	29	83.9	82.8	93.6	16.1	17.2	19.6
Patterson High	84	56	92.9	94.6	80.0	16.7	17.9	16.4
Patterson Park Public Charter School	7	6	100.0	100.0	81.8	0.0	0.0	13.1
Pimlico Elementary/Middle School	31	27	96.8	100.0	95.0	29.0	34.6	16.6
Southwest Academy	33	26	87.9	92.0	86.7	18.2	12.0	16.7
Tench Tilghman	128	117	99.2	99.1	95.0	14.8	14.5	12.6
W.E.B. DuBois High	72	50	93.1	94.0	78.8	23.6	18.0	26.0
Waverly EMS	45	42	91.1	90.5	93.5	15.6	16.7	16.2
William Paca Elementary	73	68	98.6	98.5	95.0	19.2	19.1	13.3
Wolfe Street Academy	20	20	95.0	95.0	95.0	20.0	20.0	15.8
Total	3117	2649	93.3	85.0	90.2	14.9	13.2	15.8

Table C2
African American, Hispanic, Limited English, 2011-12

Grade 2011-12	Enrolled OST Program in 2011-12				Attended OST Program Regularly (80/60 Days)			
	N	AA %	Hispanic %	LEP %	N	AA %	Hispanic %	LEP %
Kind	206	93.2	3.4	1.0	159	95.0	2.5	0.6
1	325	91.7	3.1	3.4	257	92.6	3.1	4.3
2	364	89.0	3.6	3.6	258	89.9	4.7	4.3
3	370	90.3	5.4	3.2	275	93.1	5.1	2.5
4	348	92.2	3.4	2.3	257	93.4	3.1	1.9
5	401	92.3	3.7	1.0	258	94.6	2.3	1.2
6	312	86.9	6.7	4.2	121	91.7	8.3	5.0
7	406	87.4	5.4	1.7	154	97.4	1.3	0.6
8	296	88.9	6.1	2.0	111	95.5	3.6	2.7
9	115	83.5	12.2	8.7	54	87.0	13.0	11.1
10	146	86.3	8.9	8.2	80	80.0	12.5	13.8
11	142	88.7	6.3	3.5	49	89.8	8.2	6.1
12	92	92.4	2.2	5.4	56	94.6	3.6	7.1
Total	3523	89.7	5.0	3.1	2089	92.7	4.4	3.4
BCPS Total	87,038	85.9%	4.8%	3.4%				

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

Table C3
% Eligibility for FARMS and Special Education, % Homeless, 2011-12

Grade 2011-12	Enrolled OST Program in 2011-12				Attended Program Regularly (80/60 Days)			
	N	FARMS %	Homeless %	Spec Ed %	N	FARMS %	Homeless %	Spec Ed %
Kind	206	95.6	8.3	7.8	159	95.0	5.7	6.9
1	325	96.6	4.0	8.3	257	97.3	3.1	5.4
2	364	95.3	3.8	11.8	258	95.0	2.7	11.2
3	370	95.1	2.7	13.2	275	93.5	1.8	10.9
4	348	95.4	2.9	12.9	257	94.9	1.9	11.3
5	401	94.5	2.5	15.7	258	94.2	2.7	14.0
6	312	93.9	1.9	13.5	121	95.0	1.7	14.0
7	406	90.6	2.5	11.3	154	92.9	1.9	12.3
8	296	85.1	2.7	12.5	111	87.4	3.6	12.6
9	115	86.1	3.5	21.7	54	92.6	3.7	20.4
10	146	85.6	0.0	17.8	80	81.3	0.0	16.3
11	142	83.1	2.1	23.2	49	95.9	4.1	20.4
12	92	84.8	4.3	16.3	56	82.1	1.8	17.9
Total	3523	92.4	3.1	13.3	2089	93.5	2.6	11.6
BCPS Total	87,038	84.5%	2.8%	16.5%				

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

Table C4
Attendance 2011-12

Grade 2011-12	Enrolled OST Program in 2011-12			Attended Program Regularly		
	N	Average Daily Attendance	Chronic Absence	N	Average Daily Attendance	Chronic Absence
		%	%		%	%
Kind	206	94.3	12.6	159	94.9	8.2
1	325	94.6	12.3	257	95.0	10.5
2	364	94.5	11.5	258	95.5	7.4
3	370	95.2	10.5	275	95.9	6.5
4	348	95.3	8.9	257	95.9	7.0
5	401	95.8	7.2	258	96.2	5.8
6	312	94.4	10.9	121	96.0	5.0
7	406	94.1	12.6	154	95.4	9.7
8	296	94.1	14.5	111	95.8	9.9
9	115	81.5	45.2	54	83.0	50.0
10	146	85.4	41.8	80	89.7	32.5
11	142	85.3	38.0	49	86.0	42.9
12	92	89.0	31.5	56	90.8	26.8
Total	3523	93.4	15.1	2089	94.7	11.1
BCPS Total	87,038	89.8	24.3			

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

Table C5
Demographics and Attendance of OST Participants by Level of Attendance in Program

	Less Regular OST Attendance (N = 804)		Attended Program Regularly (80/60 Days) (N = 2089)		P-Value
	Mean	SE	Mean	SE	
Gender-Male	48.5%	.018	48.4%	.011	.98
African American	86.3%	.012	92.7%	.006	.00
Hispanic/Latino	6.3%	.009	4.4%	.004	.04
Free/Reduced Price Lunch Eligibility, 2011-12	93.9%	.008	93.5%	.005	.68
Special Ed	17.5%	.013	11.6%	.007	.00
Limited English Proficiency	2.9%	.006	3.5%	.004	.43
Student Homeless	3.7%	.007	2.6%	.004	.15
Attendance Rate 2010-11	92.2%	.327	94.1%	.145	.00
Chronic Absence, 2010-11	20.6%	.021	12.7%	.009	.00
Attendance Rate 2011-12	91.7%	.414	94.7%	.146	.00
Chronic Absence, 2011-12	19.9%	.014	11.1%	.007	.00
High Attenders, 2011-12	31.3%	.016	41.0%	.011	.00
Mean Days Attended OST	36.1	.798	121.7	.587	.00

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

Table C6
Two-Year Regular OST Attenders by Grade

Grade 2011-12	OST Participants	Two-Year Regular Attenders	
	N	N	%
K	187	10	5.3
1	309	102	33.0
2	341	97	28.4
3	339	115	33.9
4	325	121	37.2
5	366	97	26.5
6	211	51	24.2
7	241	82	34.0
8	172	54	31.4
9	83	14	16.9
10	119	25	21.0
11	122	15	12.3
12	78	24	30.8
Total	2893	807	27.9

Source: Family League 2011-12 OST Data and City Schools Enrollment and Attendance Data.

*Excludes students who attended programs providing less than 80 days of service or students who did not attend City Schools for full year.

Appendix D: 2011-12 and 2012-13 Outcome Tables

**Table D1
Attendance in 2011-12 for Students in Kindergarten through Grade 12
For OST Regular Attenders and Comparison Group**

Outcomes 2011-12	Grade Exact Match					Grade & School Exact Match				
	OST Non-Participants (N = 1823)		OST Participants (N = 1823)		P-Value	OST Non-Participants (N = 1766)		OST Participants (N = 1766)		P-Value
	Mean	SE	Mean	SE		Mean	SE	Mean	SE	
% Attendance Rate 2011-12	94.0	.188	94.9	.150	*	93.0	.202	95.0	.152	*
% Chronic Absence, 2011-12	12.8	.008	10.1	.007	*	18.0	.009	10.0	.007	*
% Severe Chronic Absence	3.3	.004	1.8	.003	*	4.6	.005	1.6	.003	*
% Hi Attenders (<5 days)	36.1	.011	41.9	.012		30.6	.011	42.1	.012	*

* significant at the 95% confidence level

~ significant at the 90% confidence level

**Table D2
Attendance in 2011-12 for Newly Recruited Regular OST Attenders
in 2011-12 (No OST in 2010-11) Compared to Matched Samples**

Outcomes 2011-12	Grade Exact Match					Grade & School Exact Match				
	OST Non-Participants (N = 954)		OST Participants (N = 954)		P-Value	OST Non-Participants (N = 948)		OST Participants (N = 948)		P-Value
	Mean	SE	Mean	SE		Mean	SE	Mean	SE	
Attendance Rate 2011-12	92.4	.349	94.2	.220	*	92.0	.362	94.2	.222	*
Chronic Absence, 2011-12	17.9%	.012	12.2%	.011	*	19.5%	.013	12.1%	.011	*
Severe Chronic Absence	5.8%	.008	2.7%	.005	*	7.5%	.009	2.7%	.005	*
Hi Attenders (<5 days)	31.7%	.015	35.2%	.015	+	29.6%	.015	35.2%	.016	*

* significant at the 95% confidence level

~ significant at the 90% confidence level

Table D3
Attendance in First Half of 2012-13 for Students in Kindergarten through Grade 12
For OST Regular Attenders and Comparison Group

Outcomes 2012-13	Grade Exact Match					Grade & School Exact Match				
	OST Non-Participants (N = 1823)		OST Participants (N = 1823)		p-Value	OST Non-Participants (N = 1766)		OST Participants (N = 1766)		p-Value
	Mean	SE	Mean	SE		Mean	SE	Mean	SE	
% Attendance Rate	92.8	.264	93.7	.232	*	92.2	.248	93.9	.226	*
% Chronic Absence	16.3	.009	14.4	.008		20.5	.010	13.6	.008	*
% Severe Chronic Absence	5.6	.005	3.7	.004	*	6.7	.006	3.6	.004	*
% Hi Attenders (<5 days)	38.0	.011	42.1	.012	*	33.5	.011	43.2	.012	*

* significant at the 95% confidence level
 ~ significant at the 90% confidence level

Table D4
2011-12 and 2012-13 Outcomes for Regular OST Attenders in 2011-12, Grades 5-9
Compared to Matched Samples

Outcomes	Grade Exact Match					Grade & School Exact Match				
	OST Non-Participants (N = 592)		OST Participants (N = 592)		p-Value	OST Non-Participants (N = 540)		OST Participants (N = 540)		p-Value
	Mean	SE	Mean	SE		Mean	SE	Mean	SE	
<i>Outcomes 2011-12</i>										
% Attendance Rate 2011-12	94.7	.301	95.4	.249	~	93.8	.331	95.6	.255	*
% Chronic Absence, 2011-12	11.0	.013	9.0	.012		13.7	.015	8.3	.012	*
% Severe Chronic Absence	2.4	.006	1.7	.005		4.3	.009	1.1	.005	*
% Hi Attenders (<5 days)	40.5	.020	46.6	.021	*	33.5	.020	48.0	.022	*
<i>Outcomes 2012-13</i>										
% Promoted	96.3	.008	98.1	.006	~	95.4	.009	98.1	.006	*
% Attendance Rate 2010-11	93.0	.404	93.3	.468		92.4	.429	94.0	.439	*
% Chronic Absence, 2010-11	19.4	.016	16.7	.015		19.4	.017	14.4	.015	*
% Severe Chronic Absence	6.1	.010	3.7	.008	~	7.0	.011	3.0	.007	*
% Hi Attenders (<5 days)	42.1	.020	43.1	.020		36.1	.021	46.3	.021	*
Q2 Math Mark	72.9	.549	72.0	.555		71.2	.584	72.9	.571	*
Q2 English Mark	73.0	.541	73.4	.538		73.2	.558	73.8	.560	
Q2 Social Studies Mark	74.5	.600	73.2	.632		73.7	.656	73.3	.646	
Q2 Science Mark	74.2	.581	72.3	.551	*	72.5	.594	72.4	.574	

* significant at the 95% confidence level ~ significant at the 90% confidence level
 Note: N's for Q2 marks are lower than for attendance outcomes (N= 455-585; N= 427-533)

Table D5
Attendance in 2011-12 for Students in Kindergarten through Grade 12
for OST Regular Attenders in both 2010-11 and 2011-12 and Comparison Group

Outcomes 2011-12	Grade Exact Match					Grade & School Exact Match				
	OST Non-Participants (N = 806)		OST Participants (N = 806)		p-Value	OST Non-Participants (N = 793)		OST Participants (N = 793)		p-Value
	Mean	SE	Mean	SE		Mean	SE	Mean	SE	
Attendance Rate 2011-12	94.6	.275	95.6	.225	*	93.4	.333	95.6	.225	*
Chronic Absence, 2011-12	10.3%	.011	8.9%	.010		14.4%	.012	8.8%	.010	*
Severe Chronic Absence	3.1%	.006	1.6%	.004	*	4.5%	.007	1.4%	.004	*
Hi Attenders (<5 days)	43.1%	.017	50.0%	.018	*	33.9%	.017	50.4%	.018	*

* significant at the 95% confidence level
 ~ significant at the 90% confidence level

Table D6
2011-12 and 2012-13 Outcomes for Regular OST Attenders in both 2010-11 and 2011-12
Compared to Matched Samples

Outcomes	Grade Exact Match					Grade & School Exact Match				
	OST Non-Participants (N = 737)		OST Participants (N = 737)		p-Value	OST Non-Participants (N = 719)		OST Participants (N = 719)		p-Value
	Mean	SE	Mean	SE		Mean	SE	Mean	SE	
<i>Outcomes 2011-12</i>										
% Attendance Rate 2011-12	95.0	.247	95.7	.230	*	93.9	.302	95.7	.231	*
% Chronic Absence, 2011-12	10.6	.011	8.5	.010		13.5	.013	8.5	.010	*
% Severe Chronic Absence	2.4	.006	1.4	.004		3.5	.007	1.1	.004	*
% Hi Attenders (<5 days)	43.1	.018	49.9	.018	*	35.5	.018	50.3	.019	*
<i>Outcomes 2012-13</i>										
% Promoted	97.0	.006	97.8	.005		95.7	.008	97.9	.005	*
% Attendance Rate 2010-11	93.9	.324	94.3	.355		92.6	.426	94.4	.362	*
% Chronic Absence, 2010-11	14.5	.013	12.6	.012		15.7	.014	12.2	.012	~
% Severe Chronic Absence	4.6	.008	3.4	.007		5.0	.008	3.3	.007	
% Hi Attenders (<5 days)	44.0	.018	47.9	.018		36.0	.018	48.8	.019	*

* significant at the 95% confidence level
 ~ significant at the 90% confidence level