BEYOND THE BELL

The Impact of Beyond the Bell's ASSETs Program on Percentage of Credits Earned Toward Graduation

2012-13 to 2015-16

Prepared for

Los Angeles Unified School District

Beyond the Bell Branch

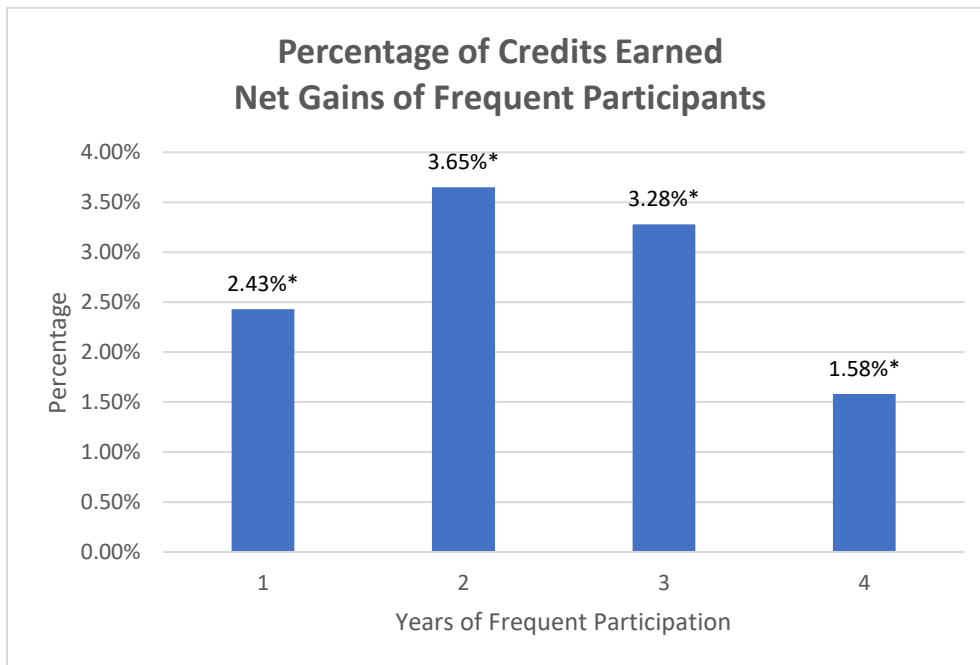**By**   ERC

Stephen Price, Ed.D.
John Escalera

Summary

Using a quasi-experimental matched pair design, the percentage of credits earned by 12,464 frequent participants in Beyond the Bell's ASSETs program was compared with a carefully matched control group of non-participants. Frequent participants attended the program 30 or more days for one or more years included in the study (2012-13, 2013-14, 2014-15, and 2015-16). The outcome compared was change in percentage of credits earned (of those attempted) over a baseline year (prior to program entry).

Frequent participants in Beyond the Bell ASSETs programs exhibited significantly greater mean changes in percentage of credits earned than carefully matched control groups. This finding was consistent for one-, two-, three-, and four-year participants. The chart below shows group differences.

During the outcome year:
- One year participants earned a mean of 2.43% more credits than non-participant controls.
- Two year participants earned a mean of 3.65% more credits than non-participant controls.
- Three year participants earned a mean of 3.28% more credits than non-participant controls.
- Four year participants earned a mean of 1.58% more credits than non-participant controls.
- Since each comparison was limited to a single outcome year, it can be inferred that **the average frequent participant in Beyond the Bell's ASSETs program will earn 10.94% more credits than a non-participant over a four-year period.**

Percentage of Credits Earned
Net Gains of Frequent Participants

Years of Frequent Participation	Percentage
1	2.43%*
2	3.65%*
3	3.28%*
4	1.58%*

*Indicates statistical significance

Purpose of the Study

This study measured the impact of Beyond the Bell (BTB) ASSETs program on the percentage of course credits earned toward graduation by frequent participants at 73 high schools in the Los Angeles Unified School District (LAUSD) between the 2012-13 and 2015-16 school years. The outcome measured was students' regular school attendance rate. Outcomes for a treatment group of 12,464 students who were frequent after-school program attenders were statistically compared with those of carefully matched control groups of non-attenders. Changes were measured between each student's percentage of credits earned in baseline and outcome years. The effects of frequent after-school program attendance for one, two, three, and four years during high school were examined separately.

Subjects

Subjects were students in grades 9–12 attending high schools within the LAUSD at which federally-funded After School Safety and Enrichment for Teens (ASSETs) programs are operated through Beyond the Bell. Students were selected for inclusion in one of two groups: a treatment group of 12,464 frequent ASSETs program participants and a carefully matched control group of 42,949 students who did not participate in the program. Control group students attended the same schools and were in the same grade levels as the frequent participants. They were also matched based on similarities in gender, ethnicity, free/reduced meal status, regular school attendance rate, English learner (EL) status, special education status, involvement in gifted and talented education, and percentage of credits earned out of those attempted in a baseline year.

Treatment Group Selection

The treatment group was comprised of students who participated in the ASSETs program for a minimum of 30 days, during one or more of the school years for which outcomes were analyzed in this study (2012–13, 2013–14, 2014–15, or 2015-16). Inclusion in the treatment group also required the availability of baseline year data for all variables on which matching was based, and baseline and outcome year data for the outcome measure being compared (percentage of credits earned). The baseline year was defined as the school year prior to the initial year in which each student began participating in the ASSETs program. Using this definition, the baseline year varied among treatment group students. The eighth grade year was considered to be the baseline year for any student who began participating in after school programs prior to high school.

Table 1 shows the numbers of students included in the one-, two-, three-, and four-year participant groups, with respect to specific baseline and outcome years. Years of participation was defined as the number of consecutive years of frequent participation (30 days or more).

Table 1

Number of Frequent Participants Included in Treatment Groups

Baseline Year	Outcome Year	Years of Participation	Number of Frequent Participants with Baseline and Outcome Data
2011-12	2015-16	4	n=665
2011-12	2014-15	3	n=868
2011-12	2013-14	2	n=1124
2011-12	2012-13	1	n=1388
2012-13	2015-16	3	n=1254
2012-13	2014-15	2	n=801
2012-13	2013-14	1	n=1118
2013-14	2015-16	2	n=1982
2013-14	2014-15	1	n=1153
2014-15	2015-16	1	n=2111

Control Group Selection and Matching

The control group was comprised of students who did not participate in the ASSETs program. They were matched with students in the treatment group using the following criteria. All matching variables were from the treatment student's baseline year.

1. They were matched directly based on school attended, grade level, gender, ethnicity, free/reduced meal status, EL status, and baseline percentage of credits earned (of those attempted).

2. They were also matched using a weighted propensity score based on grade level, gender, ethnicity, free/reduced meal status, regular school attendance rate, EL status, special education status, and involvement in gifted and talented education. The weights assigned to these factors were generated using a regression model predicting the likelihood (or "propensity") that each student would enter the after-school program the following year. Frequent program attenders were then matched with comparison group students who had similar predicted propensity.

Up to five matching control students were identified for each frequent program attender. When more than five comparison students were available by direct match, weighted propensity scores were used to select the nearest five matches. Following this procedure, one control student could serve as a match for more than one frequent ASSETs participant from the same school. To avoid overweighting the results for control students, their results were averaged to form a one-to-one comparison with results for each student from the treatment group. Therefore, the control "student" in each matched pair was actually a composite of up to five students rather than a single student. This substantially reduces sampling error.

Table 2 compares characteristics of frequent attenders in the treatment group with those of students in the matched control group.

Table 2

Baseline Data for Frequent Participants and Matched Controls

	Frequent Participants (*n* = 12,464)	Matched Controls (*n* = 42,949)	
Outcomes	*M*	*M*	Difference
Percentage of Credits Earned	95.6%	95.6%	0.0%
Characteristics	%	%	Difference
Hispanic	88.1%	91.4%	-3.3%
Black	2.9%	2.6%	0.3%
Asian	2.1%	1.5%	0.6%
White	4.7%	3.0%	1.7%
Other ethnicity	2.3%	1.6%	0.7%
Male	47.7%	46.1%	1.6%
Female	52.3%	53.9%	-1.6%
Regular School Attendance Rate	97.6%	95.9%	1.7%
Free/reduced meal	85.8%	87.3%	-1.5%
Special education	7.5%	11.9%	-4.4%
Gifted/talented	14.6%	12.6%	2.0%
Limited English proficient	8.5%	6.2%	2.3%
Parent education			
HS grad or above	21.7%	20.7%	1.0%
Unknown or not HS grad	28.5%	30.8%	-2.3%

Dependent Measure

Percentage of credits earned (calculated as the number of credits earned divided by the number of credits attempted for each student) was used as the dependent measure in the study. The mean change in percentage of credits earned for the treatment group was compared with the mean change for matched controls. Mean change was calculated as the percentage of credits earned in the outcome year minus the percentage earned in the baseline year. Net gains were reported as the difference in mean change between the two groups (mean change of treatment group minus mean change of control group).

Findings

A paired samples *t*-test was used for comparing group means, with an alpha level of .05 used to determine statistical significance. A paired samples *t*-test may be used on a matched-pairs sample when an unpaired sample is used to form a paired sample based on additional variables measured along with the dependent variable of interest to reduce or eliminate confounding effects (David & Gunnink, 1997). Cohen's *d* was used as the measure of effect size, calculated as the difference in the two groups' means divided by the average of their standard deviations. A *d* of 1 indicates that group means differ by one standard deviation, a *d* of .5 indicates that group means differ by half a standard deviation, and so forth.

Table 3 shows that the mean change in percentage of credits earned by frequent participants was significantly greater than matched controls for one-, two-, three-, and four-year participants with moderate effect sizes.

Table 3

Differences in Mean Percentage of Credits Earned: Frequent After-School Program Participants and Matched Non-Participant Controls

	M *	t	df	p	d**
Four-Year Participants	1.58	3.23	664	.001***	0.16
Three-Year Participants	3.28	8.39	2,121	.001***	0.24
Two-Year Participants	3.65	12.74	3,906	.001***	0.25
One-Year Participants	2.43	10.72	5,769	.001***	0.18

*Mean change in percentage of credits earned by frequent participants (from the baseline year) minus the mean change of matched controls.
**Cohen's *d* was used as the measure of effect size.
***Indicates statistical significance.