

Effects of YMCA Middle School Youth
Institute Participation on School
Performance and Attendance
Academic Year: 2012 - 2013

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Introduction

The YMCA Middle School Youth Institute (MSYI) is a school-based, academic support and enrichment program that uses technology as an integral mechanism for promoting positive youth development and enhancing the academic success of low-income, culturally-diverse middle school students at Stephens Middle School in the Long Beach Unified School District (LBUSD). Program participants can be involved in the program in several ways. First, some participants are part of a daily, school-based after-school program that incorporates homework assistance, recreation, technology, academic enrichment and community service. Second, some participants are accepted into a smaller, five-week summer program which includes a week-long wilderness retreat that focuses on team-building and leadership skill development which is followed by three weeks of immersion into high-end technology and movie-making. Finally, some program participants are involved in both program components. The primary program goals are: (a) To improve the technology knowledge and skills of participants, (b) To use positive youth development principles and project-based learning to develop leadership and decision-making skills, and (c) To improve youth attitudes toward education and academic achievement. This report presents the effects of the program on participants' grades, tests scores and school attendance during the 2012 – 2013 school year.

Methods

Data Collection

All of the data used for this research was collected from secondary sources. Both youth and their parents signed consent forms agreeing to allow the YMCA and school district to release information to the research team. The YMCA provided the researchers with a computer file that contained school district identification numbers, days of attendance in the after-school program between September, 2011 and June, 2013, and whether the participant had attended the summer

program in 2012. LBUSD then provided the researchers with academic grade point average (GPA), cumulative academic GPA, total GPA, cumulative total GPA, absences, truancies, and standardized test scores from all students enrolled at Stephens. The two files were then matched by student identification numbers so program participants could be classified for analysis.

The academic measures used in this study came from the semester prior to the start of or at the beginning of the 2012 – 2013 school year (pre-assessment) and the final semester of the 2012 – 2013 school year (post-assessment). For 6th graders, the pre-assessment measure was taken from the first semester of the 2012 – 2013 school year since the elementary school report card was substantially different. For 7th and 8th graders, the pre-assessment measure was taken from the last semester of the 2011 – 2012 school year. One study limitation is that youth may have been involved in the program prior to the collection of these pre-assessment measures since the first grading point for 6th graders may have come after they started the program.

Sample

One Year

One-hundred youth participated in the MSYI program at least once in the 2012-13 school year. However, to be designated as a MSYI participant for the one year analyses, participants had to attend at least 12 days of the program during the school year. The attendance ranged from 12 to 185 days over the time period, with an average of 111 attendance days and a standard deviation of 58. Of the 100 MSYI youth, 89 (89%) met this criteria, had both parent and youth consents and some useable data. The district provided data on 698 Stephens' students who had never participated in the MSYI program. Of these 698 comparison students, 686 (98%) had useable data. The researchers first explored whether there were ethnic, gender, and grade differences between MSYI participants and comparison students. There were significant ethnic

differences between the two groups, so the researchers randomly selected a stratified, matched comparison group based on ethnicity. Approximately five comparison students were matched for each MSYI participant, depending on the availability of match criteria.

Table 1
Description of YMCA Middle School Youth Institute Participants and Comparison Students
One Year Analysis (2012- 2013)

	YMCA MSYI Participants (N = 89)		Comparison Students (N = 406)	
	%	N	%	N
Gender				
Male	61%	54	55%	223
Female	39%	35	45%	183
Ethnicity				
Latino	53%	47	59%	239
African-American	30%	27	26%	105
Asian-American/Filipino/Pacific Islander	12%	11	13%	54
European-American	2.5%	2	1%	5
Other/Mixed	2.5%	2	1%	3
Grade				
6 th	37%	33	36%	146
7th	30%	27	30%	121
8th	33%	29	34%	139

Two Year

A two-year analysis was also completed. In order to be designated as a MSYI participant for the two year analyses, participants had to have attended at least 30 days of the program

between 2011 and 2013. The attendance ranged from 30 to 368 days over the two year period, with an average of 186 days attended per youth and a standard deviation of 119. Seventy-six youth met these criteria, had both parent and youth consents and some useable data, and were included in the two year analyses. The comparison sample for the two year analyses consisted of the 7th and 8th graders from year one who had useable two year data. Youth had to have been in 7th or 8th grade during the 2012 school year or they would not have had sufficient data to be included in the two-year analyses.

Table 2
Description of YMCA Middle School Youth Institute Participants and Comparison Students
Two Year Analysis (2011- 2013)

	YMCA MSYI Participants (N = 76)		Comparison Students (N = 236)	
	%	N	%	N
Gender				
Male	53%	40	52%	123
Female	47%	36	48%	113
Ethnicity				
Latino	61%	46	61%	143
African-American	24%	18	24%	56
Asian-American/Filipino/Pacific Islander	12%	9	13%	31
European-American	1%	1	1%	3
Other/Mixed	2%	2	1%	3
Grade				
7th	47%	36	47.5%	112
8th	53%	40	52.5%	124

Measures

The first grade measure was academic grade point average (GPA) which was the mean of the four academic courses required of all middle school students (Language Arts, Math, History, Science). The second grade measure was total grade point average (GPA) which was the mean of all courses taken for the semester. For 7th and 8th graders, cumulative academic GPA and cumulative total GPA, the combined GPA across semesters, were also used. Absenteeism was measured using the number of days the student missed and truancy was the number of unexcused absences from school during the semester. Test scores were measured using the standardized scores from the district content standards tests for English Language Arts (ELA) and Math.

Analyses

Chi square tests were used to compare the demographic differences between the intervention and comparison groups. Multivariate analysis of co-variance (MANCOVA) was used to compare outcome differences between MSYI participants and comparison students while controlling for baseline.

Results

One Year Comparisons between Middle School Youth Institute and Comparison Students on Academic Measures

As shown in Table 3, MSYI participants had significantly higher Math Content Standard scores, $F(1, 470) = 6.57, p < .05$, somewhat higher English, Language, Arts Content Standard scores, $F(1, 471) = 2.89, p < .10$, and somewhat fewer absences, $F(1, 476) = 3.47, p < .10$, than comparison students.

Table 3
 Comparisons of School Performance between MSYI Participants and Comparison Students for
 the 2012-2013 School Year

Measure	MSYI Participants		Comparison Students		F-Value
	Adjusted Mean	N	Adjusted Mean	N	
Academic GPA	2.39	89	2.45	405	.35
Total GPA	2.55	89	2.61	405	.63
Cumulative Academic GP	2.59	89	2.55	396	.71
Cumulative Total GP	2.77	89	2.75	396	.32
Absences	6.89	88	8.70	391	3.47*
Truancies	2.19	88	2.61	391	.55
Content Standards					
English Language Arts	335.63	88	326.87	386	2.89*
Math	348.66	87	332.38	386	6.57**

* Approaching significance at the .10 level.

** Significant differences between groups at the .05 level

Two Year Comparisons between Middle School Youth Institute and Comparison Students on Academic Measures

As shown in Table 4, MSYI participants had significantly higher Total GPAs, $F(1, 309) = 3.90, p < .05$, Academic Cumulative GPAs, $F(1, 307) = 5.37, p < .05$, Total Cumulative GPAs, $F(1, 309) = 8.56, p < .05$, and Math Content Standard scores, $F(1, 296) = 6.01, p < .05$, than comparison students. MSYI participants also had somewhat higher English, Language, Arts Content Standard scores, $F(1, 296) = 3.80, p < .10$, than comparison students.

Table 4
Comparisons of School Performance between MSYI Participants and Comparison Students over
Two Years 2011-2013

Measure	MSYI Participants		Comparison Students		F-Value
	Adjusted Mean	N	Adjusted Mean	N	
Academic GPA	2.60	73	2.44	235	2.12
Total GPA	2.76	76	2.57	236	3.90**
Cumulative Academic GPA	2.74	75	2.58	235	5.37**
Cumulative Total GPA	2.91	76	2.74	236	8.56**
Absences	6.41	70	7.61	233	.91
Truancies	1.88	70	2.27	233	.31
Content Standards					
English Language Arts	339.22	70	328.55	229	3.80*
Math	354.00	70	336.91	229	6.01**

* Approaching significance at the .10 level.

** Significant differences between groups at the .05 level

Conclusions

One of the primary goals of the YMCA Middle School Youth Institute is to promote academic success for low-income, culturally-diverse youth. The findings here provide some indication that program involvement helped participants to perform better academically since, after one year of participation, MSYI youth scored significantly higher on standardized Math tests and somewhat higher on standardized English Language tests than comparison students. In addition, MSYI participants had somewhat fewer absences than their non-involved peers. While more frequent attendance has been found in prior evaluations of the program, this is the first evaluation that found a positive impact on standardized test scores.

The positive impact of program involvement was even clearer in the two-year analyses, as youth involved in the MSYI over 30 days during this period, evidenced significantly higher total and cumulative GPAs, total Academic GPAs, and Math test scores, than the matched comparison group. They also had somewhat better cumulative English Language Arts test scores. It appears that MSYI participation can, as hypothesized, have a positive effect on academic achievement. These findings are in keeping with the literature which suggests that well designed out-of-school programs can positively influence grades, test scores and school attendance (Vandell, Reisner & Pierce, 2007; Durlak & Weissberg; 2007). However, the biggest academic impact occurred when youth were involved over a longer period of time, thus, efforts to encourage and increase program retention are critical.

References

- Durlak, J. A., & Weissberg, R. P. (2007). *The impact of after-school programs that promote personal and social skills*. Chicago, IL: Collaborative for Academic, Social, and Emotional Learning. Retrieved from <http://www.lionsquest.org/pdfs/AfterSchoolProgramsStudy2007.pdf>
- Vandell, D., Reisner, E., & Pierce, K. (2007). *Outcomes linked to high-quality afterschool programs: Longitudinal findings from the study of promising practices*. Irvine, CA: University of California and Washington, DC: Policy Studies Associates. Retrieved from <http://www.gse.uci.edu/childcare/pdf/afterschool/PP%20Longitudinal%20Findings%20Final%20Report.pdf>