

Effects of YMCA Middle School Youth
Institute on Grades, Test Scores and
Attendance

Academic Year: 2007 - 2008

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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 two middle school sites in Long Beach Unified School District (LBUSD); Stephens and Hughes. Program participants volunteer for the program, come from the specific school sites and 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/involvement. Second, some participants are accepted into a much smaller six-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 three primary goals of the program are: (a) To improve the technology knowledge and skills of participants, (b) To use youth development principles and project-based learning to develop leadership and decision-making skills, and (c) To improve youth attitudes toward education and their academic achievement. The purpose of this report is to present the effects of the program on participants' academic performance including grades, tests scores and school attendance

Methods

Data Collection

All of the data used for this research was collected from secondary sources. First, 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, 2007 and June,

2008 and whether the participant had attended the intensive summer MSYI program in 2007. LBUSD then provided the researchers with academic grade point average (GPA), absences and standardized test scores from all students enrolled at Hughes and Stephens middle schools. The two files were then matched by student identification numbers for analysis. Parents of children in the program agreed to allow the YMCA and school district to release this information. The researchers did not know the names or identities of any of the students included in these analyses.

LBUSD provided the academic measures used in this study at two time points; the semester prior to the start of the 2007 – 2008 school year (pre-test) and the final semester of the 2007 – 2008 school year (post-test). For 6th graders, the pretest measure was taken from the first semester of the 2007 – 2008 school year since the elementary school report card was substantially different. For 7th and 8th graders, the pre-test measure was taken from the last semester of the 2006 – 2007 school year. Given that the timing of the pre-test measures were different depending on grade level, the results of the study are presented separately for 6th graders. It is worth noting that one study limitation is that youth may have been involved in the program prior to the collection of these pre-test measures since the first grading point for 6th graders may have come after they started the program and 7th and 8th graders may have been in the program the prior year as well.

Sample

Three-hundred and thirty-five youth participated in the MSYI program at least once during the 2007 – 2008 school year. However, in order to be designated as a MSYI participant for these analyses, participants had to attend at least 30 days of the after-school program during that academic year. Of the 335 youth, 237 (71%) met this criteria and were designated as MSYI

participants. One hundred and one (43%) MSYI participants were 6th graders while 136 (57%) were 7th and 8th graders. Seventy-five (74%) of the 101 of the MSYI 6th graders while 129 (95%) of the 136 7th and 8th graders had at least some useable data and were included in the results presented here.

The district also provided data on 2,406 middle school students who did not participate in the MSYI program during the 2007 – 2008 school year to serve as a comparison group. Of these, 2,252 (94%) had useable data. Of these 2,252 comparison group youth, 729 (32%) were 6th graders and 1,523 (68%) were 7th and 8th graders.

Prior to examining program effects, the researchers explored whether there were gender, ethnic and grade differences between MSYI participants and comparison students. Among 6th graders, there were significant ethnic differences, the MSYI group had a higher proportion of African-Americans while the comparison group had higher proportions of Latinos and European-Americans. Among 7th and 8th graders, a significantly higher proportion of MSYI participants were in seventh grade (57%) than in the comparison group (47%). There were also significant ethnic differences between the two groups among 7th and 8th graders. The MSYI group had a higher proportion of African-American and Latino students while the percentage of Asian-American and European-American students was higher for the comparison group. Since there were significant ethnic and, in the higher grades, grade differences between the intervention and comparison groups, the researchers randomly selected stratified subsamples from the comparison groups based on ethnicity and grade level. Approximately five comparison students were matched for each MSYI participant.

Researchers also wanted to explore whether participation in the Year-Round MSYI program (summer and academic year) was related to grades and test scores so a subsample of

these youth was also drawn. Due to significant gender and ethnic differences between this group and comparison students, the researchers drew another random stratified sample based on those characteristics. Table 1 presents the descriptions of the 6th grade academic-year MSYI and comparison sample, Table 2 displays the descriptions for the 7th and 8th grade academic-year samples, and Table 3 presents the descriptions of the Year-Round MSYI participants and comparison sample.

Table 1
6th Grade Sample Descriptions YMCA Middle School Youth Institute Participants and
Comparison Students for the Academic Year of 2007-08

	YMCA MSYI Participants (N = 75)		Comparison Students (N = 357)	
	%	N	%	N
Gender				
Male	51%	38	53%	191
Female	49%	37	47%	166
Ethnicity				
Latino	32%	24	33%	120
African-American	42%	31	43%	160
Asian-American/Filipino/Pacific Islander	20%	15	20%	74
Caucasian	4%	3	4%	15
Native-American	1%	1	0%	1
Missing	1%	1	0%	0
School				
Hughes	67%	50	65%	232
Stephens	33%	25	35%	125

Table 2

7th and 8th Grade Sample Descriptions of YMCA Middle School Youth Institute Participants
and Comparison Students for the Academic Year of 2007-08

	YMCA MSYI Participants (N = 129)		Comparison Students (N = 614)	
	%	N	%	N
Gender				
Male	43%	55	42%	259
Female	57%	74	58%	355
Ethnicity				
Latino	48%	62	51%	310
African-American	32%	41	31%	193
Asian-American/Filipino/Pacific Islander	11%	15	12%	74
Caucasian	8%	10	6%	37
Missing	1%	1	0%	0
School				
Hughes	53%	68	52%	322
Stephens	47%	61	48%	292
Grade				
7th	57%	74	57%	347
8th	43%	55	43%	267

Table 3

Descriptions of 7th and 8th Grade YMCA Middle School Youth Institute Participants and Comparison Students for the Year-Round Program of 2007-08

	Year-Round YMCA MSYI Participants (N = 42)		Comparison Students (N = 265)	
	%	N	%	N
Gender				
Male	55%	29	55%	145
Female	45%	24	45%	120
Ethnicity				
Latino	36%	19	36%	95
African-American	45%	24	45%	120
Asian American/Filipino/Pacific Islander	9.5%	5	9.5%	25
Caucasian	9.5%	5	9.5%	25
School				
Hughes	66%	35	66%	175
Stephens	34%	18	34%	90
Grade				
7th	59%	31	49%	129
8th	41%	22	51%	136

Measures

The grades measure was the academic GPA, the mean of the four academic courses required of all middle school students (Language Arts, Math, History, Science). Absenteeism was measured using the number of days the student missed during that semester. Test scores

were measured using the standardized scores from the district content standards tests for English Language Arts and Math.

Analyses

Chi square tests were used to compare the demographic differences between the two groups. Multivariate analysis of co-variance (MANCOVA) was used to compare outcome differences between MSYI participants and comparison students on academic GPA, absences and standardized content test scores, while controlling for baseline measures.

Results

Comparisons between 6th Grade Middle School Youth Institute and Comparison Students on Academic Measures for the Academic-Year Program

As shown in Table 4, there were no significant differences found between YMCA Middle School Youth Institute participants and comparison students among sixth graders.

Table 4

Comparisons of GPA, Absences and Content Standard Test Scores between 6th Grade Middle School MSYI Participants and Comparison Students for the Academic-Year Program

Measure	MSYI Participants		Comparison Students		F-Value
	Adjusted Mean	N	Adjusted Mean	N	
Academic GPA	2.65	50	2.74	200	2.94
Absences	5.25	58	6.22	292	1.30
Content Standards					
English Language Arts	341.75	64	339.22	325	.48
Math	328.08	64	329.67	324	.76

*p < .05

Comparison between 7th and 8th Grade Middle School Youth Institute and Comparison Students on Academic Measures for the Academic-Year Program

As shown in Table 5, there were no significant differences found between YMCA Middle School Youth Institute participants and comparison students among seventh and eighth graders.

Table 5

Comparisons of GPA, Absences and Content Standard Test Scores between 7th and 8th Grade MSYI Participants and Comparison Students for the Academic-Year Program

Measure	MSYI Participants		Comparison Students		F-Value
	Adjusted Mean	N	Adjusted Mean	N	
Academic GPA	2.43	129	2.45	614	.38
Absences	6.19	128	6.94	613	1.57
Content Standards					
English Language Arts	346.25	128	341.59	592	2.45
Math	333.02	127	331.27	579	.29

*p < .05

Comparison between 7th and 8th Year-Round Middle School Youth Institute and Comparison Students on Academic Measures for the Year-Round Program

As shown in Table 6, Year-Round Middle School Youth Institute participants had a somewhat higher Academic GPA than comparison students, $F(1, 310) = 2.88, p < .10$.

Table 6

Comparisons of GPA, Absences and Content Standard Test Scores between 7th and 8th Grade Middle School Youth Institute Participants and Comparison Students for the Year-Round Program

Measure	MSYI Summer Participants		Comparison Students		F-Value
	Adjusted Mean	N	Adjusted Mean	N	
Academic GPA	2.59	53	2.50	260	2.88*
Absences	5.48	53	6.36	263	1.01
Content Standards					
English Language Arts	352.30	53	351.23	254	.05
Math	340.52	53	341.72	248	.06

* Approaching significance at the .10 level.

** Significant differences between groups at the .05 level.

Discussion

One of the primary goals of the YMCA Middle School Youth Institute is to promote academic success for low-income, culturally-diverse youth. When academic-year MSYI participants were compared with a random, matched comparison group of middle school students to determine the effects of the MSYI on GPA, attendance and content standard test scores, no significant differences were found at any grade level. This lack of difference between the two groups is somewhat disappointing given the focus of the academic-year program. It is possible that program staff should review the program structure to examine whether the academic and enrichment components currently in place are of the highest quality. They might also want to partner with school staff to explore potential ways to increase academic achievement. Efforts to establish positive relationships with youth might also help contribute better attendance and possibly increased academic effort.

On the other hand, Year-Round MSYI participants did have a somewhat higher GPA than comparison students. This is true even though, at baseline, Year-Round MSYI participants had somewhat lower grades than comparison students. These findings suggest, to some extent, that participation in the Year-Round MSYI did contribute to better academic performance among these youth. It is not immediately clear why the addition of the summer program appears to have proved beneficial to the academic performance of these youth. The evaluation of the Stephens summer program of that year did show significant improvements in all of the leadership skills and many of the technologies competencies measured. Perhaps the addition of these skills helped these youth better adapt to the school setting or to develop the technology skills necessary for successfully completing some school projects. It will be interesting to see if these findings hold true in the coming year as well. However, the summer program may a role in promoting school success.