

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

Academic Year: 2008 - 2009

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Table of Contents

	Page
Introduction	3
Methods	3
Data Collection	3
Sample	4
Measures	8
Analyses	9
Results	9
Comparisons between 6th Grade Middle School Youth Institute and Comparison Students on Academic Measures	9
Comparison between 7th and 8th Grade Middle School Youth Institute and Comparison Students on Academic Measures	10
Comparison between 7th and 8th Year-Round Middle School Youth Institute and Comparison Students on Academic Measures	11
Discussion	12
References	14

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 smaller, four-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. Parents of children in the program agreed to allow the YMCA and school district to release this

information. 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, 2008 and June, 2009 and whether the participant had attended the intensive summer MSYI program in 2008. LBUSD then provided the researchers with academic grade point average (GPA), cumulative academic grade point average (GPA), absences, truanancies, 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.

LBUSD provided the academic measures used in this study at two time points; the semester prior to the start of the 2008 – 2009 school year (pre-test) and the final semester of the 2008 – 2009 school year (post-test). For 6th graders, the pre-test measure was taken from the first semester of the 2008 – 2009 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 2007 – 2008 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 forty-six youth participated in the MSYI program at least once during the 2008 – 2009 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. Of the 346 youth, 272 (79%) met this criteria and were designated as MSYI participants. One hundred and

eleven (41%) MSYI participants were 6th graders while 161 (59%) were 7th and 8th graders. Sixty-three (57%) of the 111 of the MSYI 6th graders and 87 (54%) of the 161 7th and 8th graders were included in these analyses because they had parent and youth consents as well as some useable data.

The district also provided data on 2,375 Stephens and Hughes students who did not participate in the MSYI program during the 2008 – 2009 school year to serve as a comparison group. Of these, 2,256 (95%) had useable data. Prior to examining program effects, the researchers explored whether there were ethnic, gender, grade and school site differences between MSYI participants and comparison students. There were significant ethnic, gender and school site differences between the two groups so the researchers randomly selected a stratified, matched comparison group based on these variables. Approximately five comparison students were matched for each MSYI participant, depending on the availability on match criteria. Researchers also explored whether participation in the year-round MSYI program (summer and academic year) was related these academic measures so a subsample of these youth was also drawn. No significant differences in ethnicity, gender, grade or school site were found between this group and the stratified random comparison students. 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 (Academic Year, 2008-09)

	YMCA MSYI Participants (N = 63)		Comparison Students (N = 275)	
	%	N	%	N
Gender				
Male	38%	24	44%	120
Female	62%	39	56%	155
Ethnicity				
Latino	35%	22	42%	115
African-American	44%	28	34%	95
Asian-American/Filipino/Pacific Islander	18%	11	20%	55
Caucasian	3%	2	4%	10
School				
Hughes	68%	43	67%	185
Stephens	32%	20	33%	90

Table 2

7th and 8th Grade Sample Descriptions of YMCA Middle School Youth Institute Participants
and Comparison Students (Academic Year 2008-09)

	YMCA MSYI Participants (N = 87)		Comparison Students (N = 486)	
	%	N	%	N
Gender				
Male	47%	41	45%	218
Female	53%	46	55%	268
Ethnicity				
Latino	42%	36	44%	214
African-American	29%	25	27%	129
Asian-American/Filipino/Pacific Islander	26%	23	28%	137
Caucasian	3%	3	1%	6
School				
Hughes	39%	34	38%	186
Stephens	61%	53	62%	300
Grade				
7th	52%	45	54%	260
8th	48%	42	46%	226

Table 3

Descriptions of 7th and 8th Grade YMCA Middle School Youth Institute Participants and Comparison Students for the Year-Round Program of 2008-09

	Year-Round YMCA MSYI Participants		Comparison Students	
	(N = 42)		(N = 486)	
	%	N	%	N
Gender				
Male	55%	23	45%	218
Female	45%	19	55%	268
Ethnicity				
Latino	41%	17	44%	214
African-American	31%	13	27%	129
Asian American/Filipino/Pacific Islander	26%	11	28%	137
Caucasian	2%	1	1%	6
School				
Hughes	38%	16	38%	186
Stephens	62%	26	62%	300
Grade				
7th	41%	17	54%	260
8th	59%	25	46%	226

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, for 7th & 8th graders only, was cumulative academic GPA. Absenteeism was measured using the number of days the student missed during that semester.

Truancy was the number of unexcused absences from school during that 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 two groups. Multivariate analysis of co-variance (MANCOVA) was used to compare outcome differences between MSYI participants and comparison students on academic GPA, cumulative 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 academic-year participants and comparison students among sixth graders.

Table 4

Comparisons of GPA, Absences, Truancies and Content Standard Test Scores between 6th Grade Middle School MSYI Participants and Comparison Students for the Academic-Year Program 2008-2009

Measure	MSYI Participants		Comparison Students		F-Value
	Adjusted Mean	N	Adjusted Mean	N	
Academic GPA	2.57	63	2.53	272	.26
Absences	5.48	47	6.75	224	1.22
Truancies	1.79	47	2.69	224	1.58
Content Standards					
English Language Arts	350.50	54	348.36	244	.24
Math	340.63	55	348.42	247	1.43

* Approaching significance at the .10 level.

** Significant differences between groups at the .05 level

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, YMCA Middle School Youth Institute academic-year participants had significantly fewer Truancies than comparison students, $F(1, 559) = 6.48, p < .05$, and somewhat fewer Absences $F(1, 559) = 3.82, p < .10$, than 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 2008-2009

Measure	MSYI Participants		Comparison Students		F-Value
	Adjusted Mean	N	Adjusted Mean	N	
Academic GPA	2.52	86	2.46	466	.58
Cumulative Academic GPA	2.49	86	2.50	480	.25
Absences	6.79	86	9.43	476	3.82*
Truancies	3.34	86	5.46	476	6.48**
Content Standards					
English Language Arts	340.47	86	346.43	461	2.54
Math (7 th graders only)	337.60	45	342.18	247	.53

* Approaching significance at the .10 level.

** Significant differences between groups at the .05 level

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 significantly fewer Absences, $F(1, 515) = 4.18, p < .05$, and Truancies $F(1, 515) = 3.91, p < .05$, than comparison students among seventh and eighth graders.

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 2008-2009 Program

Measure	MSYI Year-Round Participants		Comparison Students		F-Value
	Adjusted Mean	N	Adjusted Mean	N	
Academic GPA	2.51	86	2.49	466	.05
Cumulative Academic GPA	2.52	86	2.54	480	.64
Absences	6.46	86	8.94	476	4.18**
Truancies	3.12	86	5.45	476	3.91**
Content Standards					
English Language Arts	345.43	86	348.27	461	.29
Math	351.03	45	346.52	247	.21

* 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. Among all middle school students at all grade levels (both academic and year-round), there were no significant differences on any of the academic or test score variables explored between MSYI participants in comparison students. The same results were found last year as well. This lack of difference between the two groups is somewhat disappointing given the focus of the academic 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. However, it is worth

noting that it may be difficult to change grades substantially in the middle school in the course of a single year.

On a more promising note, upper grade MYSI participants were significantly less likely to have been truant and had somewhat fewer absences. Those who participated in the year-round program (summer and academic year) had significantly fewer absences and truancies than comparison students. This represents an improvement over last year's results since no differences were found on these measures at any grade level. It is encouraging to note the MSYI 7th and 8th graders were more likely to attend school, given that school attendance has been linked to both better academic achievement (Roby, 2004; DeKalb, 1999; Shutt, 2000) and a decreased risk of school dropout (National Education Goals Panel, 1994). Given the link between school attendance and achievement, it is possible that, if the higher levels of attendance continue, MSYI youth may also, over time, exhibit better grades than their peers.

As was found last year, it does appear that there may be additional benefits to attending the intensive MSYI program in the summer. Those youth in the year-round program this year had significantly fewer absences and truancy while, last year, the youth who participated in the combined program had somewhat better academic grades. This suggests the summer program may provide "added value" and the YMCA should continue to seek funding to be able to provide the Youth Institute Middle School program in the summer.

There are some limitations to the study that should be noted. First, data was only available on 55% of those youth who met the criteria of 30 or more days in the program. Thus, it is possible that these findings are not generalizable to the larger sample. Second, school district identification numbers were missing for some youth who participated in the program, so it is possible that some of the comparison youth were actually enrolled in the program.

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