

**Effects of the Summer and Year-Round
YMCA Middle School Youth Institute on
Technology Skills, Educational Attitudes and
Positive Youth Development
(2010 – 2011)**

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Table of Contents

	<u>Page</u>
Program Overview	3
Methods	3
Data Collection	3
Sample	4
Instrument	6
Educational Attitude Scales	6
Positive Youth Development Scales	7
Analysis	8
Results	8
Summer Program	8
Technology Use	8
Technology Competence	9
Educational Attitudes	10
Positive Youth Development	11
Planned Level of Educational Achievement	12
Year-Round Program	13
Technology Use	13
Technology Competence	14
Educational Attitudes	15
Positive Youth Development	16
Planned Level of Educational Achievement	17
Conclusions	18
References	21

Program Overview

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 Long Beach Unified School District (LBUSD). Participants volunteer for the program and can be involved 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 (academic-year program). Second, some participants are accepted into a much 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 four weeks of immersion into high-end technology and movie-making. Finally, some participants are involved in both components.

The three primary goals of the program are to: (a) improve technology knowledge and skills, (b) enhance positive youth development, and (c) improve attitudes toward education and academic achievement. This report investigates the effects of program participation on the projected outcomes among youth who attended during the 2010 summer and 2010 – 2011 year-round programs.

Methods

Data Collection

Youth enter the MSYI on a continuous basis and stay sometimes for multiple years. At the beginning of the 2010 school year, or whenever the youth joined the program, youth and parent informed consents for research participation were included in the program registration packets, which were returned prior to starting the MSYI. Once both the youth and parent

informed consents had been collected, MSYI staff administered the survey, either individually or in a group setting, as soon as possible. At the end of the summer session and/or academic year, MSYI staff again collected surveys from available youth who had the necessary consents and had completed a pre-test survey. While this report looks at the 2010-11 summer and year-round program, 54% of youth had already been in the program in prior years.

Sample

According to program attendance data, 166 youth attended the program during this time frame. Of those, 106 (64%) had signed youth and parent consents to participate in the research. Only 71 (43%) of the possible participants completed a Youth Institute Survey at both time points and were included in these analyses. As shown in Table 1, 59% attended the year round program only, 27% completed the summer program only and 14% attended both components. Just over half (54%) had participated in the program during the previous year. Participants ranged from 10 to 14 years of age, with the majority being 11 to 13 (84%). Fifty-five percent were male. Latinos (66%) were the largest ethnic group, followed by African-Americans (18%), and Asian-American/Pacific Islanders (10%). A small percentage of youth (16%) had actually graduated from middle school, yet participated in the summer program. According to the attendance database, the youth who participated in the academic-year program attended between 21 and 185 days during the year with an average attendance of 150 days.

An attrition analysis was conducted to determine if there were any demographic differences between the youth who had all of the necessary information (analysis group) versus those who had research consents, but did not have the necessary pre- or post-test (non-analysis group). No significant differences were found for gender, ethnicity, age, or grade level.

Table 1
Description of 2010-11 Stephens Middle School Youth Institute Participants
(N = 71)

	%	N
MSYI Participant Type		
Academic Year Only	59%	42
Summer Only	27%	19
Summer and Academic Year	14%	10
Attended Prior Year		
Yes	54%	38
No	46%	33
Age at Start of Program		
10	6%	4
11	25%	18
12	31%	22
13	28%	20
14	10%	7
Gender		
Male	55%	39
Female	45%	32
Ethnicity		
Latino	66%	46
African-American	18%	13
Asian-American/Pacific Islander	10%	7
Bi/Multicultural	4%	3
Caucasian	1%	1
Other	1%	1
Grade		
6 th	35%	25
7 th	28%	20
8 th	21%	15
9 th	16%	11

Instrument

The instrument used was The YMCA Youth Institute Survey which is a combined instrument measuring technology use and technology competence, educational attitudes and positive youth development. The survey is composed of four sections. The technology use and competence measure was originally created by Dr. Jo Ann Regan to evaluate this project, however, the measure was revised recently to reflect the current technology curriculum at the MSYI. All items were used individually. The three educational attitude measures (self-perceptions, goal valuation, and motivation/self-regulation) came from The School Attitude Assessment Survey – Revised Edition (McCoach & Siegle, 2003). The positive youth development measures were created by the researchers specifically to evaluate this project based on items in The Toolkit for Evaluating Positive Youth Development (The Colorado Trust, 2004).

Educational Attitude Scales

Three educational attitude scales were created to measure academic self-perceptions ($\alpha = .85$ to $.91$), goal valuation ($\alpha = .93$ to $.95$), and motivation/self-regulation ($\alpha = .93$ to $.95$). The academic self-perception scale consisted of 7 items that measured the perception/confidence that students had in their own skills. Questions included “I feel that I can learn new ideas quickly” and “I feel intelligent.” The goal valuation scale consisted of 6 items that measured how much students valued a task. Questions included “It is important to me to get good grades” and “I want to do my best in school.” The motivation/self-regulation scale consisted of 10 items and measured how self-motivated students were and how good they were at self-monitoring. Questions included “I use a variety of strategies to learn new material in high school” and “I am a responsible student.” Participants rated their agreement with each statement on a scale ranging from 1 “Strongly Disagree” to 7 “Strongly Agree.” Higher scores indicated more positive attitudes.

Positive Youth Development Scales

The cultural competence scale ($\alpha = .79$ to $.80$) consisted of 6 items measuring respect for and comfort with their own and others' cultures. Questions included "I try hard not to judge people based on their skin color" and "I feel pride for my own culture, race or ethnic group." The life skills scale ($\alpha = .84$ to $.86$) consisted of 11 items measuring proficiencies that allow youth to transition into and achieve successful adulthood. Questions included "I am good at making friends" and "I make good decisions."

The positive core value scale ($\alpha = .77$ to $.80$) consisted of seven items measuring caring, empathy, integrity, honesty, responsibility, equality and fairness. Questions included "I am good at taking responsibility for my actions" and "I am good at speaking up for people who have been treated unfairly." The sense of self scale ($\alpha = .74$ to $.77$) consisted of 5 items measuring how youth view themselves and their abilities to cope with the basic challenges of life. Questions included "I can handle whatever comes my way" and "I feel that I can make a difference."

The social competency/responsible choices scale ($\alpha = .87$) consisted of 6 items measuring good behavior, hard work, personal responsibility and fairness. Questions included "I can identify the positive and negative consequences of my behavior" and "I think I should work to get something if I really want it." The community involvement scale ($\alpha = .74$ to $.79$) consisted of 4 items measuring feelings of connectedness to the community and volunteer activities. Questions included "I feel a strong connection to my community" and "I feel good about myself because I help others." The positive adult relationships scale ($\alpha = .84$ to $.86$) consisted of 3 items measuring amount of perceived social support received from adults outside of the family. Questions included "There is a caring adult outside my family in my life who is around when I need him/her" and "There is a caring adult outside of my family in my life who cares about my

feelings.” All of the positive youth development scales ranged from 1 “Strongly Disagree,” to 4 “Strongly Agree,” and higher scores represented more positive development.

Analysis

Frequencies and descriptive statistics were used to describe the sample. Paired-samples t-tests were used to explore changes among participants for both summer-only participants and year-round participants (those that attended either only the academic-year or both the academic-year and summer program).

Results

Summer Program

Technology Use

Technology use was measured by participants’ self-report of their frequency of use of 12 types of technology. Participants rated themselves on a scale ranging from 1 “Never” to 4 “Daily.” Higher scores indicated greater frequency of use. As shown in Table 2, these MSYI youth reported significantly less frequent use of using data processing software applications for databases or spreadsheets, $t(18) = -2.53, p < .05$, at the end of the summer program.

Table 2
Participant Report of Changes in Technology Use
Stephens MSYI 2010-11 Summer Program

Technology Use	Start of Program			End of Program		
	Mean	SD	N	Mean	SD	Difference
I currently use the computer at home and school.	3.11	.94	19	3.26	.81	.16
I send email.	2.58	1.12	19	2.89	1.10	.32
I access the Internet (websites, surf the web).	3.58	.61	19	3.42	.69	-.16
I create web pages using computer software and code applications (HTML, Dreamweaver, etc.).	1.63	1.01	19	1.68	.75	.05
I use word processing software (Word) applications to write text.	2.79	.85	19	2.68	.75	.11
I use data processing software applications for databases or spreadsheets.	2.42	1.12	19	1.89	.88	-.53**
I use digital video equipment (cameras/video).	2.89	.81	19	2.74	.81	-.16
I participate in Internet chat rooms/discussion boards/listservs.	2.47	1.12	19	2.47	1.17	.00
I use the computer to complete school assignments.	2.95	.91	19	2.84	.83	-.11
I use digital music creation software (GarageBand, Reason, Logic Pro).	2.74	.93	19	2.68	.75	-.05
I use presentation software (PowerPoint, Keynote, Inspiration).	2.53	.84	19	2.68	.75	.16
I use digital editing software (iMovie, Final Cut).	2.53	.90	19	2.63	.68	.11

*p < .10

**p < .05

Technology Competence

Technology competence was measured by self-report of knowledge in seven areas. Participants rated themselves on a scale ranging from 1 “No knowledge” to 4 “Excellent knowledge.” As shown in Table 3, no significant changes were found for summer participants on any of the technology competency measures.

Table 3
Participant Report of Changes in Technology Competencies
Stephens MSYI 2010-11 Summer Program

Technology Competence	Start of Program			End of Program		
	Mean	SD	N	Mean	SD	Difference
I can use input devices (mouse, keyboard, remote control) and output devices (monitor, printer) to successfully operate computers, VCRs, audiotapes, etc.	3.42	.69	19	3.47	.51	.05
I can use a variety of media and technology resources (Word, PowerPoint) to create presentations.	3.58	.51	19	3.32	.75	-.26
I can work in a group to use technology to produce and share information (presentations, reports).	3.16	.76	19	3.32	.58	.16
I can create multimedia products (digital videos, movies, newsletters) with support from staff or student partners.	3.11	.66	19	3.16	.60	.05
I can use technology tools to locate, evaluate, and collect information from a variety of sources.	3.05	.78	19	3.21	.71	.16
I can use technology tools to process data and report results.	3.00	.82	19	2.95	.85	-.05
I can use technology tools for managing my schedules, addresses, etc.	2.74	.81	19	2.89	.81	.16

*p < .10

**p < .05

Educational Attitudes

As shown in Table 4, these MSYI youth did not report any significant changes in educational attitudes at the end of the summer program.

Table 4
Participant Report of Changes in Educational Attitudes
Stephens MSYI 2010-11 Summer Program

Educational Attitude Scale	Start of Program			End of Program		Difference
	Mean	SD	N	Mean	SD	
Academic Self-Perceptions	5.68	.97	19	5.56	.87	-.12
Goal Valuation	6.37	.65	19	6.42	.78	.05
Motivation/Self-Regulation	5.83	.83	19	5.61	.90	-.22

*p < .10

**p < .05

Positive Youth Development

As shown in Table 5, these MSYI youth participants did not report any significant changes on any of the positive youth development scales at the end of the summer program.

Table 5
Participant Report of Changes in Positive Youth Development Scales
Stephens MSYI 2010-11 Summer Program

Development Scale	Start of Program			End of Program		
	Mean	SD	N	Mean	SD	Difference
Cultural Competence	3.45	.53	19	3.54	.37	.09
Life Skills	3.17	.49	19	3.14	.43	-.03
Positive Core Values	3.10	.50	19	3.21	.42	.11
Sense of Self	3.20	.60	19	3.23	.44	.03
Social Competency/Personal Responsibility	3.34	.46	19	3.42	.38	.08
Community Involvement	2.87	.67	19	2.88	.46	.01
Positive Adult Relationships	3.19	.72	19	3.33	.64	.14

*p < .10

**p < .05

Planned Level of Educational Achievement

Participants were also asked what level of education they planned to complete. As shown in Table 6, 74% of these participants said that they planned to attain at least a Bachelor's Degree or higher, at the end of the summer program.

Table 6
 Planned Highest Level of Educational Achievement
 2010-11 Stephens Middle School Summer Youth Institute Participants
 (N = 19)

	%	N
Doctorate or Professional Degree (6+ years)	37%	7
Master's Degree (5 years)	16%	3
Bachelor's Degree (4 years)	21%	4
Associate's Degree (2 years)	5%	1
Specialized Training Program/Technical/Trade School (less than 2 years)	10.5%	2
High School Diploma	0%	0
Less than a High School Diploma	0%	0
Undecided	10.5%	2

Year-Round Program

Technology Use

As shown in Table 7, year-round (those that attended either only the academic-year or both the academic-year and summer program) youth reported significantly more frequent use of accessing the Internet, $t(51) = 2.41, p < .05$; and using word processing software, $t(48) = 2.02, p < .05$, at the end of the year-round program. Year-round participants also reported somewhat more frequent use of using the computer at home and school, $t(50) = 1.71, p < .10$; creating web pages using computer software and code applications, $t(49) = 1.94, p < .10$; participating in Internet chat rooms/discussion boards, $t(51) = 1.88, p < .10$; and using digital music creation software, $t(51) = 1.91, p < .10$, at the end of the year-round program.

Table 7
Participant Report of Changes in Technology Use
Stephens MSYI 2010-11 Year-Round Program

Technology Use	Start of Program			End of Program		
	Mean	SD	N	Mean	SD	Difference
I currently use the computer at home and school.	2.96	.89	51	3.18	.74	.22*
I send email.	2.10	1.22	52	2.13	1.07	.04
I access the Internet (websites, surf the web).	3.02	1.09	52	3.33	.73	.31**
I create web pages using computer software and code applications (HTML, Dreamweaver, etc.).	1.50	.95	50	1.84	1.11	.34*
I use word processing software (Word) applications to write text.	2.41	1.10	49	2.78	1.05	.37**
I use data processing software applications for databases or spreadsheets.	2.10	1.16	52	2.29	1.13	.19
I use digital video equipment (cameras/video).	2.43	1.14	51	2.47	1.14	.04
I participate in Internet chat rooms/discussion boards/listservs.	1.85	1.11	52	2.12	1.18	.27*
I use the computer to complete school assignments.	2.83	.92	52	2.83	.96	.00
I use digital music creation software (GarageBand, Reason, Logic Pro).	2.19	1.12	52	2.48	1.08	.29*
I use presentation software (PowerPoint, Keynote, Inspiration).	1.96	1.08	52	2.04	1.08	.08
I use digital editing software (iMovie, Final Cut).	2.10	1.14	52	2.10	1.09	.00

* $p < .10$

** $p < .05$

Technology Competence

As shown in Table 8, year-round participants reported a significant improvement on using a variety of media and technology resources to create presentations, $t(50) = 2.09, p < .05$, at the end of the year-round program.

Table 8
Participant Report of Changes in Technology Competencies
Stephens MSYI 2010-11 Year-Round Program

Technology Competence	Start of Program			End of Program		
	Mean	SD	N	Mean	SD	Difference
I can use input devices (mouse, keyboard, remote control) and output devices (monitor, printer) to successfully operate computers, VCRs, audiotapes, etc.	2.88	1.03	51	3.14	.98	.25
I can use a variety of media and technology resources (Word, PowerPoint) to create presentations.	2.75	1.07	51	3.04	1.02	.29**
I can work in a group to use technology to produce and share information (presentations, reports).	2.80	1.10	51	2.98	.97	.18
I can create multimedia products (digital videos, movies, newsletters) with support from staff or student partners.	2.51	1.22	51	2.65	1.09	.14
I can use technology tools to locate, evaluate, and collect information from a variety of sources.	2.76	1.18	51	2.71	1.12	-.05
I can use technology tools to process data and report results.	2.68	1.10	50	2.72	1.11	.04
I can use technology tools for managing my schedules, addresses, etc.	2.71	1.32	51	2.65	1.16	-.06

*p < .10

**p < .05

Educational Attitudes

As shown in Table 9, these MSYI youth did not report any significant changes in educational attitudes at the end of the year-round program.

Table 9
Participant Report of Changes in Educational Attitudes
Stephens MSYI 2010-11 Year-Round Program

	Start of Program			End of Program		
	Mean	SD	N	Mean	SD	Difference
Educational Attitude Scale						
Academic Self-Perceptions	5.85	.96	51	5.96	.92	.11
Goal Valuation	6.53	.70	51	6.48	.80	-.05
Motivation/Self-Regulation	5.95	.96	51	6.04	.98	.09

* $p < .10$

** $p < .05$

Positive Youth Development

As shown in Table 10, these MSYI youth reported somewhat of an improvement in life skills, $t(51) = 2.00, p < .10$, at the end of the year-round program.

Table 10
Participant Report of Changes in Positive Youth Development Scales
Stephens MSYI 2010-11 Year-Round Program

Development Scale	Start of Program			End of Program		
	Mean	SD	N	Mean	SD	Difference
Cultural Competence	3.28	.53	52	3.39	.49	.11
Life Skills	3.09	.50	52	3.20	.51	.11*
Positive Core Values	3.18	.49	52	3.18	.54	.00
Sense of Self	3.24	.51	52	3.26	.55	.03
Social Competency/Personal Responsibility	3.40	.52	52	3.42	.55	.02
Community Involvement	3.04	.61	48	3.14	.61	.09
Positive Adult Relationships	3.13	.89	52	3.11	.93	-.03

*p < .10

**p < .05

Planned Level of Educational Achievement

As shown in Table 11, 60% of these year-round participants said that they planned to attain at least a Bachelor's Degree or higher, at the end of the year.

Table 11
 Planned Highest Level of Educational Achievement
 2010-11 Stephens Middle School Year-Round Youth Institute Participants
 (N = 52)

	%	N
Doctorate or Professional Degree (6+ years)	33%	17
Master's Degree (5 years)	17%	9
Bachelor's Degree (4 years)	10%	5
Associate's Degree (2 years)	4%	2
Specialized Training Program/Technical/Trade School (less than 2 years)	8%	4
High School Diploma	10%	5
Less than a High School Diploma	1.5%	1
Undecided	15%	8
Missing	1.5%	1

Conclusions

This research investigated the effects of summer and year-round participation in the MSYI on technology use and competency, educational attitudes and positive youth development. While there is a large improvement over last year's included youth, only 43% of those who attended the program were included in these analyses. There is no way to determine whether the results found here are generalizable to the larger group of participants. It is discouraging to note that youth participating in the summer program evidenced no significant changes on any of the technology, academic, and positive youth development measures examined here. In some instances, their ratings actually dropped, and they reported a significant reduction in the use of data processing or management software. It is possible that the lack of findings here might be related to the fact that most of the summer youth had participated in the program in the prior academic-year. The only significant changes among MSYI academic and year-round participants were in accessing the Internet, using word processing software, and having confidence in using a

variety of media and technology resources to create presentations. They reported some increase in use of the computer at home and school, the creation of web pages, participation in Internet chat rooms, and the use of digital music creation software. These findings, regarding technology use and competence, are less positive than those reported in prior years.

Although it was anticipated that MSYI involvement would positively influence educational attitudes, like the last two years, there were no significant changes on any of these three measures. As previously suggested MSYI staff should consider implementing strategies related to enhancing commitment to education and developing academic goals and motivation. It may also be useful to begin looking at college readiness and helping youth to see the relationship between their long-term academic aspirations, which appear quite high, and their current school performance. It may also prove useful to integrate self-monitoring and rewards into homework time to encourage youth to do their best. MSYI staff might also positively impact this area by consulting or collaborating with school staff to better understand and support educational aspirations. It is possible that MSYI staff will need specific training and coaching to develop and implement strategies designed to enhance educational attitudes.

The effects of MSYI participation on seven measures of positive youth development were also explored. There were no significant findings in this area, however, there was some growth in the area of life skills. Over the last four years, this has been an area of some concern for the program, particularly since the MSYI prides itself on the use of strategies that have been shown to promote positive youth development. MSYI might want to carefully review and continually monitor the program environment to ensure that positive youth development principles are incorporated into all program areas. They might also consider introducing some cultural or tolerance content, as well as some interpersonal skill-building activities, and possibly look at how they might promote bonding between staff and youth. It is also possible that it might prove

beneficial to have other YMCA staff members, who have expertise in this area, provide training or coaching at the site to ensure that the program is meeting this proposed goal. Finally, opportunities for these youth to be involved in their communities may also yield positive results.

In order to explore whether, the lack of changes found here was a result of a ceiling effect due to participating in the program for multiple years, a subset of 33 youth who had data from their entry in 2009 and at the end of the 2011 were examined to look at longer-term effects. Even over a two-year period, these youth only reported significant improvement in the area of technology competence (use of input and output devices, use of different media/technology resource to create presentations, work in groups to use technology to share information, create multimedia products, use technology tools to locate, collect and evaluate information, use technology tools to process data and report results, and use technology tools to manage schedules, address, etc.). There were no significant changes in the areas of technology use, educational aspirations, or positive youth development. Overall, the results found here suggest that program revision may be indicated so that youth continue to develop skills in all of the areas hypothesized in the model.

References

McCoach, D. B., & Siegle, D. (2003). The school attitude assessment survey-revised: A new instrument to identify academically able students who underachieve. *Educational and Psychological Measurement, 63* (3), 414-429.

The Colorado Trust. (2004). *The after-school initiative's toolkit for evaluating positive youth development*. Retrieved from

<http://www.coloradotrust.org/repository/publications/pdfs/ASIToolkitJun04.pdf>.

The Partnership for 21st Century Learning Skills. (2003). *Learning for the 21st century: A report and mile guide for 21st century skills*. Retrieved from

http://www.21stcenturyskills.org/downloads/P21_Report.pdf.