Effects of the YMCA Middle School Youth Institute on Technology Skills, Educational Attitudes and Positive Youth Development (2011 – 2012)

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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 attend a daily, school-based, after-school program that incorporates homework assistance, recreation, technology, academic enrichment and community service/involvement (academic-year program). Second, some 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 followed by immersion into high-end technology and movie-making. Finally, some 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. This report investigates the effects of program participation on the hypothesized outcomes among youth who attended between July, 2011 and June, 2012.

Methods

Data Collection

Youth enter the MSYI on a continuous basis and stay sometimes for multiple years. 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 Youth Institute Survey, either individually or in a group setting, as soon as possible. At the end of the academic year, MSYI staff again collected surveys from available youth who had the necessary consents

and had completed a pre-test survey. Registration forms and surveys were then given to the researchers. Program attendance data was provided by the YMCA as well.

Sample

One hundred and sixty-five youth attended the academic-year program or both the summer and academic-year program during this time frame. However, only 99 (60%) had signed youth and parent consents to participate in the research. Sixty (61%) of those with consents had completed a beginning and ending Youth Institute Survey, and were included in these analyses. As shown in Table 1, 57% attended the academic-year program only. Just over half (52%) had participated in the program the prior year. Participants ranged from 10 to 13 years of age, with the majority being 11 to 13 (88%). The majority (73%) were in the 6^{th} or 7^{th} grade. Fifty-three percent were male. Latinos (62%) were the largest ethnic group, followed by African-Americans (23%). The youth attended between 15 and 191 days during the academic-year, with an average attendance of 155 days.

An attrition analysis was used to determine if there were any demographic differences between the youth in the "analysis group" and 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. Thus, these results may be generalizable to the larger group.

Table 1

Description of 2011-12 Stephens Middle School Youth Institute Participants

(N = 60)

	%	N
MSYI Participant Type		
Academic Year Only	57%	34
Summer and Academic Year	43%	26
Attended Prior Year		
Yes	52%	31
No	48%	29
Age		
10	12%	7
11	38%	23
12	28%	17
13	22%	13
Gender		
Male	53%	32
Female	47%	28
Ethnicity		
Latino	62%	37
African-American	23%	14
Asian-American/Pacific Islander	10%	6
Bi/Multicultural	5%	3
Grade		
6^{th}	35%	21
7^{th}	38%	23
8^{th}	27%	16

Two-Year Sample

To investigate possible longer-term program effects, an analysis was also completed with 27 youth who had been in the program since 2011. As shown in Table 2, 85% had attended both the summer and academic-year programs. Participants ranged in age from 11 to 13 years, with the majority being 12 to 13 (74%). Sixty-three percent were male. Latinos (55%) were the largest

ethnic group, followed by African-Americans (26%). Over the course of two years, these youth between 89 and 374 days during the academic year, with an average of 307 days attended.

Table 2

Description of Two-Year Stephens Middle School Youth Institute Participants

(N = 27)

	%	N
MSYI Participant Type		
Summer and Academic Year	85%	23
Academic Year Only	15%	4
Age		
11	26%	7
12	33%	9
13	41%	11
Gender		
Male	63%	17
Female	37%	10
Ethnicity		
Latino	55%	15
African-American	26%	7
Asian-American/Pacific Islander	15%	4
Bi/Multicultural	4%	1
Grade		
6^{th}	4%	1
7^{th}	52%	14
8^{th}	37%	10
9^{th}	7%	2

Instrument

The instrument used was The YMCA Youth Institute Survey which is an instrument measuring technology skills, educational attitudes and positive youth development. The survey is composed of four sections. The technology skills section measures changes related to the 11 technology areas taught in the program. Participants rated themselves on a scale ranging from 1 "No Skills" to 4 "Excellent Skills." Higher scores indicated greater skill level. All items were

used individually. The three educational attitude measures (academic 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 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 (α = .83 to .87), goal valuation (α = .85 to .93), and motivation/self-regulation (α = .91 to .94). The academic self-perception scale consisted of seven 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 six 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 ten items and measured how self-motivated and self-monitoring students were. 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 meant better attitudes.

Positive Youth Developme*nt *Scales

The cultural competence scale (α = .75 to .76) consisted of six 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 (α = .84 to .87) consisted of eleven 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 (α = .72 to .73) 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 (α = .68 to .73) consisted of five items measuring how youth viewed 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 (α = .75 to .77) consisted of six 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 (α = .75 to .76) consisted of four 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 (α = .82 to .85) consisted of three 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 after program involvement.

Results

Technology Skills

As shown in Table 3, study participants reported significantly higher skills in email use, t (56) = 4.03, $p < .05$; Internet Use, t (54) = 2.93, $p < .05$; using data processing software, t (55) = 3.34, $p < .05$; presentation software, t (56) = 2.77, $p < .05$; digital video editing software, t (56) = 3.96, $p < .05$; graphic design, t (56) = 3.94, $p < .05$; and digital photography, t (56) = 2.12, $p < .05$, at the end of the year-round program. The greatest skill gains were found in graphic design, digital video editing and email use.

Table 3

Participant Report of Changes in Technology Skills

Stephens MSYI 2011-12 Participants

	Start of Program			End of Program		
Technology	Mean	SD	N	Mean	SD	Difference
Email use.	2.63	1.08	57	3.19	.93	.56**
Internet use (visit websites/surf web).	3.53	.69	55	3.78	.46	.25**
Word processing software (Word) to write reports and/or letters.	3.05	.95	57	3.25	.91	.19
Data processing software (Excel) for databases or spreadsheets.	2.21	1.00	56	2.73	1.07	.52**
Digital Video Filming (Camera, lighting, etc.)	2.58	1.15	57	2.81	1.02	.23
Using the computer to complete school assignments.	3.37	.82	57	3.46	.73	.09
Digital music creation (GarageBand, Reason, Logic Pro).	2.81	1.02	57	2.96	1.00	.16
Presentation software (Powerpoint, Keynote, Inspiration).	2.33	1.17	57	2.77	1.12	.44**
Digital Video Editing (Final Cut Pro, iMovie, After Effects, etc.).	2.28	1.05	57	2.84	1.07	.56**
Graphic Design (Photoshop, Illustrator, InDesign).	2.39	1.13	57	3.00	1.05	.61**
Digital Photography (DSLR camera, lighting, memory card, Photoshop, etc.).	2.39	1.10	57	2.77	1.03	.39**

**p < .05

Educational Attitudes

As shown in Table 4, there were no significant changes in educational attitudes among participants.

Table 4

Participant Report of Changes in Educational Attitudes

Stephens MSYI 2011-12 Participants

	Start of Program			End of Program		
Educational Attitude Scale	Mean	SD	N	Mean	SD	Difference
Academic Self-Perceptions	5.95	.79	59	5.96	.92	.01
Goal Valuation	6.69	.59	60	6.61	.52	-.08
Motivation/Self-Regulation	6.15	.78	60	5.96	.85	-.19*

**p < .05

Positive Youth Development

As shown in Table 5, these MSYI youth reported significant improvements in cultural competence, t (58) = 3.36, $p < .05$; positive core values, t (58) = 2.10, $p < .05$; and positive adult relationships, t (55**)** = 2.07, $p < .05$, at the end of the year-round program.

Table 5

Participant Report of Changes in Positive Youth Development Scales

Stephens MSYI 2011-12 Participants

	Start of Program			End of Program		
Development Scale	Mean	SD	N	Mean	SD	Difference
Cultural Competence	3.39	.48	59	3.58	.36	.19**
Life Skills	3.18	.47	60	3.27	.47	.10
Positive Core Values	3.26	.39	59	3.38	.45	.12**
Sense of Self	3.36	.48	59	3.42	.45	.06
Social Competency/Personal Responsibility	3.44	.38	59	3.39	.47	-.06
Community Involvement	3.07	.60	58	3.10	.63	.03
Positive Adult Relationships	3.21	.80	56	3.43	.69	.22**

**p < .05

Planned Level of Educational Achievement

As shown in Table 6, at the end of the school year, 60% of participants said they planned to attain at least a Bachelor's Degree or higher. However, 20% were undecided about their higher education plans.

Table 6

Planned Highest Level of Educational Achievement

2011-12 Stephens Middle School Year-Round Youth Institute Participants

(N = 60)

	%	N
Doctorate or Professional Degree (6+ years)	35%	21
Master's Degree (5 years)	20%	12
Bachelor's Degree (4 years)	15%	9
Associate's Degree (2 years)	3%	2
Specialized Training Program/Technical/Trade School (less than 2 years)	3%	2
High School Diploma	2%	1
Less than a High School Diploma	0%	0
Undecided	20%	12
Missing	2%	1

Two-Years of Program Participation

Since the technology skills portion of the survey changed during this time period, it was not possible to investigate these changes.

Educational Attitudes

As shown in Table 7, these MSYI youth did not report any significant changes in educational attitudes over the course of two years of program attendance.

Table 7

Participant Report of Changes in Educational Attitudes among Two-Year Participants

	Start of Program 2010-11			End of Program 2011-12		
Educational Attitude Scale	Mean	SD	N	Mean	SD	Difference
Academic Self-Perceptions	6.09	.72	26	6.18	.95	.09
Goal Valuation	6.50	.64	27	6.65	.40	.15
Motivation/Self-Regulation	5.99	.91	27	6.08	.80	.10

**p < .05

Positive Youth Development

As shown in Table 8, these MSYI youth participants reported significant gains in the positive youth development areas of cultural competence, t (25) = 3.65, $p < .05$; life skills, t (26) = 2.70, $p < .05$; positive core values, t (25) = 3.09, $p < .05$; sense of self, t (25) = 3.79, $p < .05$; and positive adult relationships, t (24) = 3.02, $p < .05$, over their two years in the program.

Table 8

Participant Report of Changes in Positive Youth Development over Two Years of Attending Stephens MSYI 2010-12 Participants

	Start of Program 2010-11			End of Program 2011-12		
Development Scale	Mean	SD	N	Mean	SD	Difference
Cultural Competence	3.29	.51	26	3.70	.30	.40**
Life Skills	3.19	.41	27	3.44	.38	.25**
Positive Core Values	3.25	.43	26	3.51	.35	.26**
Sense of Self	3.24	.50	26	3.61	.35	.37**
Social Competency/Personal Responsibility	3.35	.63	26	3.53	.42	.18
Community Involvement	2.99	.72	24	3.27	.53	.28
Positive Adult Relationships	3.08	.83	25	3.57	.56	.49**

**p < .05

Planned Level of Educational Achievement

As shown in Table 9, at the end of the school year, 81% of participants who had been in the program for two years said they planned to attain at least a Bachelor's Degree or higher. Only 11% were undecided about their higher education plans.

Table 6

Planned Highest Level of Educational Achievement among 2010 – 2012 MYSI Participants (N = 27)

	%	N
Doctorate or Professional Degree (6+ years)	30%	8
Master's Degree (5 years)	22%	6
Bachelor's Degree (4 years)	26%	7
Associate's Degree (2 years)	4%	1
Specialized Training Program/Technical/Trade School (less than 2 years)	4%	1
High School Diploma	0%	0
Less than a High School Diploma	0%	0
Undecided	11%	3
Missing	4%	1

Conclusions

This research investigated the effects of participation in the MSYI on technology skills, educational attitudes and positive youth development. Unfortunately, only 36% of those who attended the program during the 2011 – 2012 academic year were included in these analyses. There is no way to determine whether the results found here are generalizable to the larger group of participants although the demographics were similar. It should also be noted that many of these youth will continue to participate in the program next year. Participants self-reported significant improvement in seven (64%) of the 11 technology areas measured here. This represents a substantial improvement in the development of technology skills found last year and, although the absence of a control group means these changes may have occurred as a result of outside influences, provides some indication that MSYI participation, as anticipated, helped youth to develop a broad range of technology skills

Although it was hoped that MSYI involvement would positively influence educational attitudes, like the last three years, there were no significant changes on any of the three educational attitudes measures. In fact, both goal valuation and motivation/self-regulation decreased at the end of the program. As previously suggested MSYI staff should implement strategies related to enhancing commitment to education and developing academic goals and motivation. It may also be useful to begin college readiness classes or groups to help youth see the relationship between their long-term academic aspirations, which appear 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. Unlike the last five years, when there were no changes in positive youth development, these participants self-reported significant improvement in cultural competence, positive core values, and positive adult relationships. While these finding are somewhat encouraging, the MSYI should continually monitor the program environment to ensure that positive youth development principles are incorporated into all program areas. It may also prove beneficial to have YMCA staff supervisors, who have expertise in this area, provide training or coaching at the site to help staff develop these skills. Finally, opportunities for these youth to be involved in their communities may also yield positive results. These efforts should contribute to better youth development outcomes in future years.

A subset of 27 youth who had entry data in 2010 and at the end of the 2012 academic year were examined to look at longer-term effects of program participation. Although the

findings of no changes in educational attitudes was consistent with those with a single year of participation, the proportion of youth who planned on obtaining a bachelor's degree or higher in the two-year subsample was substantially greater (21%) than among those who were only in the program during 2011 – 2012. Youth who had participated over the two-year period self-reported significant improvement in cultural competence, life skills, positive core values, sense of self, and positive adult relationships. This may suggest that length of participation may result in better positive youth development outcomes or that youth who had developed more of these skills stayed in the program longer. In any event, retaining middle school youth over multiple years may prove beneficial to their positive development.

Overall, the findings here indicate that MSYI participants gained diverse technology skills and improved in some areas of positive youth development. Efforts to improve the number of youth who can participate in the research is warranted since many, including long-term attenders, were lost due to data collection challenges. It will be useful to see next year, if the changes in positive youth development continue, and if educational attitudes can be enhanced with a concerted effort in this area.

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