Effects of the Year-Round YMCA Middle School Youth Institute on Technology Skills, Educational Attitudes and Positive Youth Development (2008 – 2009)

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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 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 technology knowledge and skills, (b) to enhance positive youth development, and (c) to improve attitudes toward education and academic achievement. This report investigates the effects of program participation on technology skills, positive youth development and educational attitudes among youth who attended the school-based after-school program during the 2008 – 2009 school year.

Methods

Data Collection

Youth enter the MSYI on a continuous basis and often stay for multiple years. At the beginning of the 2008 school-year, informed consents for research participation for both youth and parents were included in the program registration packets that needed to be turned in 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 school year, MSYI staff again collected surveys from available youth who had the necessary consents and had completed a pre-test survey. It is important to note that although this phase of the evaluation started this year, some youth had already been in the program for some time.

Sample

Four hundred and thirty-seven youth participated to some extent in the MSYI during the 2008-2009 school year. Of those, 214 (49%) had signed youth and parent consents to participate in the research. Unfortunately, due to various data collection challenges, only 121 (56%) had signed parent and youth consent forms and completed a Youth Institute Survey both when they started and at the end of the program, and were included in the sample used for these analyses.

As shown in Table 1, these MSYI participants ranged from 10 to 14 years of age. The majority were 11 to 12 (69%) years of age. Fifty-three percent were female. Latinos (41%) were the largest ethnic group, followed by African-Americans (28%), Asian-American/Pacific Islanders (18%), Bi-racial/Mixed ethnicities (7%), European Americans (2%) and other (2%). Seventy-nine percent were in 6th or 7th grade when they started the MSYI. Forty (33%) youth had attended the Summer MSYI program in 2008.

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 parent consents, but did not have the necessary pre- or post-test (non-analysis group). No significant differences were found for gender, ethnicity or age. There was a significant difference for grade level, with the analysis group having fewer 8^{th} graders and more 6^{th} graders than the non-analysis group.

Table 1
Description of 2008-09 Middle School Year-Round Youth Institute Participants
(N = 121)

	%	N
Middle School Site		
Stephens	36%	44
Hughes	64%	77
Summer MSYI Participant		
Yes	33%	40
No	67%	81
Age at Start of Program		
10	3%	4
11	37%	45
12	32%	38
13	16%	19
14	9%	11
Missing	3%	4
Gender		
Male	47%	57
Female	53%	64
Ethnicity		
Latino	41%	49
African-American	28%	34
Asian-American/Pacific Islander	18%	21
Bi/Multicultural	7%	9
European-American	2%	3
Other	2%	2
Missing	2%	3
Grade		
6^{th}	45%	55
7^{th}	34%	41
8^{th}	15%	18
Missing	6%	7

Instrument

The instrument used was The YMCA Youth Institute Survey which is a combined instrument measuring positive youth development, technology use, technology competence, and educational attitudes. The survey is composed of four sections. 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). The technology use and competence measure was originally created by Dr. Jo Ann Regan to evaluate this project, however, the measure was revised this year to reflect the current technology curriculum at the MSYI. 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).

Analysis

Educational Attitude Scales

Three educational attitude scales were created to measure academic self-perceptions (α = .86 to .90), goal valuation (α = .92 to .93), and motivation/self-regulation (α = .88 to .91). The academic self-perception scale consisted of 6 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. Changes in attitudes were investigated using paired t-tests.

*Positive Youth Developmen*t *Scales*

The cultural competence scale (α = .79 to .82) consisted of 7 items measuring respect for and comfort with their own and others’ cultures. Questions included “I have respect for teens of other cultures, races or ethnic groups” and “I feel pride for my own culture, race or ethnic group.”

The life skills scale (α = .85 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 (α = .78 to .79) 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 = .75 to .76) 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 (α = .78 to .82) 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 (α = .78 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 (α = .80 to .84) 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."

Results

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 more frequent use of sending email, t (120) = 3.38, $p < .05$, using word-processing software applications to write text, t (119) = 2.19, $p < .05$, and using data processing software applications for databases or spreadsheets, t (117) = 2.65, $p < .05$, at the end of the year-round program. They also reported somewhat higher use of using the computer at home and school, t (120) = 1.91, $p < .10$, creating web pages using computer software and code applications, t (118) = 1.96, $p < .10$, and using the computer to complete school assignments, t (118) = 1.73, $p < .10$, at the end of the year-round program.

Table 2
Participant Report of Changes in Technology Use
MSYI 2008-09 Year-Round Program

	Start of Program			End of Program		
Technology Use	Mean	SD	N	Mean	SD	Difference
I currently use the computer at home and school.	3.07	.95	121	3.25	.86	.17*
I send email.	2.27	1.15	121	2.62	1.10	.35**
I access the Internet (websites, surf the web).	3.15	.95	119	3.29	.85	.13
I create web pages using computer software and code applications (HTML, Dreamweaver, etc.).	1.77	1.07	119	2.03	1.14	.26*
I use word processing software (Word) applications to write text.	2.65	.99	120	2.87	.90	.22**
I use data processing software applications for databases or spreadsheets.	2.01	1.06	118	2.31	.98	.30**
I use digital video equipment (cameras/video).	2.58	1.14	118	2.61	1.07	.03
I participate in Internet chat rooms/discussion boards/listservs.	2.23	1.28	119	2.32	1.17	.09
I use the computer to complete school assignments.	2.71	1.04	119	2.90	1.02	.19*
I use digital music creation software (GarageBand, Reason, Logic Pro).	2.24	1.08	119	2.41	1.07	.18
I use presentation software (PowerPoint, Keynote, Inspiration).	2.30	1.06	118	2.47	1.04	.17
I use digital editing software (iMovie, Final Cut).	2.18	1.13	119	2.24	1.09	.06

*p < .10
**p < .05

Technology Competence

Technology competence was measured by participants' self-report of knowledge in seven different areas. Participants rated themselves on a scale ranging from 1 "No knowledge" to 4 "Excellent knowledge." As shown in Table 3, these program participants reported a significant improvement only on creating multimedia products with support from staff or student partners,

t (114) = 2.03, *p* < .05, and in using technology tools for managing schedules, addresses, etc., *t* (112) = 2.83, *p* < .05, at the end of the year-round program. Participants also reported somewhat higher competency in using a variety of media and technology resources to create presentations, *t* (115) = 1.72, *p* < .10, at the end of the year-round program.

Table 3
Participant Report of Changes in Technology Competencies
MSYI 2008-09 Year-Round Program

	Start of Program			End of Program		
Technology Competence	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.	3.09	1.00	116	3.05	1.08	-.03
I can use a variety of media and technology resources (Word, PowerPoint) to create presentations.	2.84	1.04	116	3.03	.96	.19*
I can work in a group to use technology to produce and share information (presentations, reports).	2.91	.98	116	2.91	1.01	.01
I can create multimedia products (digital videos, movies, newsletters) with support from staff or student partners.	2.68	1.05	115	2.90	1.05	.23**
I can use technology tools to locate, evaluate, and collect information from a variety of sources.	2.87	1.03	116	2.91	.99	.03
I can use technology tools to process data and report results.	2.72	1.03	114	2.89	1.00	.18
I can use technology tools for managing my schedules, addresses, etc.	2.50	1.08	113	2.83	1.02	.34**

*p < .10
**p < .05

Educational Attitudes

As shown in Table 4, these MSYI youth did not report any significant improvements in educational attitudes at the end of the year-round program.

Table 4
Participant Report of Changes in Educational Attitudes
MSYI 2008-09 Year-Round Program

	Start of Program			End of Program		
Educational Attitude Scale	Mean	SD	N	Mean	SD	Difference
Academic Self-Perceptions	5.72	1.19	116	5.86	.96	.14
Goal Valuation	6.51	.93	117	6.35	1.10	-.15
Motivation/Self-Regulation	5.96	1.01	117	5.87	1.01	-.09

*p < .10
**p < .05

Positive Youth Development

As shown in Table 5, these youth reported significantly higher scores in positive core values, t (119) = 2.23, $p < .05$, and positive adult relationships, t (94) = 2.07, $p < .05$, at the end of the year-round program. MSYI youth also reported somewhat higher scores in life skills, t (120) = 1.85, $p < .10$, at the end of the year-round program.

Table 5
Participant Report of Changes in Positive Youth Development Scales
MSYI 2008-09 Year-Round Program

	Start of Program			End of Program		
Development Scale	Mean	SD	N	Mean	SD	Difference
Cultural Competence	3.44	.51	120	3.49	.49	.06
Life Skills	3.16	.52	121	3.24	.46	.08*
Positive Core Values	3.21	.49	120	3.32	.48	.11**
Sense of Self	3.33	.55	119	3.38	.51	.04
Social Competency/Personal Responsibility	3.38	.56	120	3.44	.47	.06
Community Involvement	3.07	.64	100	3.10	.63	.04
Positive Adult Relationships	3.31	.77	95	3.48	.63	.18**

*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, 72% of these participants said that they planned to attain at least a Bachelor's Degree or higher, at the end of the year-round program.

Table 6
Planned Highest Level of Educational Achievement
2008-09 Middle School Year-Round Youth Institute Participants
(N = 121)

	%	N
Doctorate or Professional Degree (6+ years)	30%	36
Master's Degree (5 years)	22%	27
Bachelor's Degree (4 years)	20%	24
Associate's Degree (2 years)	4%	5
Specialized Training Program/Technical/Trade School (less than 2 years)	1%	1
High School Diploma	4%	5
Less than a High School Diploma	1%	1
Undecided	13%	16
Missing	5%	6

Conclusions

This research investigated the effects of one year of participation in the year-round MSYI program on technology use and competency, educational attitudes, and positive youth development. In order to be included in these analyses, youth and parents needed to sign consents and youth had to have completed a survey at program entry and at the end of the 2008-2009 school year. Unfortunately, due to numerous data collection challenges, only 28% of MSYI participants were actually included in these analyses. It is also worth noting that these analyses only investigated one year of program participation. These youth may have participated in prior years and may continue past the end of this academic year. The findings of this study were somewhat mixed. While technology skills showed the most growth and youth development was positively changed in some areas, educational attitudes did not change among this group of MSYI participants.

In terms of technology use and competency, these youth reported that they were significantly more likely to use e-mail, word processing software and databases or spreadsheets

at the end of the school year. They were also somewhat more likely to use the computer at home and school, to use the computer to complete school assignments, and to create webpages. They further reported significantly more technology competence in the creation of multimedia products (videos, movies, newsletters) and the use of technology tools for managing schedules and addresses, as well as somewhat more use of media and technology to create presentations. It appears, as hypothesized, involvement in the MSYI helped youth to develop their technology skills in some areas. It is also possible that the development of these skills will prove useful in meeting their academic requirements at school as well.

Although it was anticipated that MSYI involvement would positively influence educational attitudes, there were no significant changes on any of these three measures. It is possible that MSYI staff need to develop a stronger program emphasis 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.

The effects of MSYI participation on seven measures of positive youth development were also explored. Significant growth was found on both positive core values and positive adult relationships. There was also some improvement in life skills which are related to the successful transition to adulthood. These findings represent an improvement over the 2008 MSYI summer program findings which indicated no improvement in this area, and provide some support for the notion that the MSYI may help youth to develop positively. The increase in the number of positive adults may be particularly encouraging given research which suggests that having positive adult relationships increases school commitment, academic achievement, life

satisfaction and meaningful role development, and reduces involvement in delinquency and other problem behaviors (Gabarino, 1993; Paxton, Valois, Huebner & Drane, 2006). The improvements in positive core values and life skills may help these youth to transition to high school successfully. MSYI might also want to carefully review and continually monitor the program environment to ensure that positive youth development principals are incorporated into all program areas. They might also consider introducing some cultural or tolerance content as well as some interpersonal skill-building activities. Finally, opportunities for these youth to be involved in their communities may also yield positive results.

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