Evaluation of the Effects of All 2013 Replication Youth Institute Summer Programs on Leadership and Technology Skills, Educational Attitudes and Positive Youth Development

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Introduction

The Youth Institute (YI) is an intensive, year-round program that uses technology as an integral mechanism for promoting positive youth development and enhancing the academic success and career readiness of low-income, culturally-diverse high school students. The goals of the Youth Institute are to: (a) improve the technology, career, leadership and decision-making skills of these youth to promote readiness for higher education or career entry after graduation; (b) improve academic achievement and stimulate interest in higher education among low-income, culturally-diverse, urban high school youth; and (c) promote bonding to pro-social adults and community attachment among urban youth to ensure that they remain engaged in their schools and communities. The program is divided into two components: the intensive summer technology program and the year-round academic support program. In summer, 2013 the YI program was replicated at 13 sites in California and Washington. This report documents the effects of the programs on leadership and technology skills, positive youth development, and educational attitudes. It also explores whether program outcomes varied by gender, ethnicity, location, and grade level.

Intensive Technology Summer Program

Across the 13 Replication Youth Institute sites, incoming youth participated in a full-time (35 hours per week), five to eight-week summer program. The first week was spent at a wilderness retreat focused on team building, cultural diversity training, decision-making and life sciences. Participants were assigned to project teams that were maintained throughout the summer so there was an ethnic and gender mix when possible. Initiative games and a low-ropes course were used to promote group cohesion and leadership skills while improving problem-solving and communication skills. Cultural awareness and tolerance activities were also integrated and life sciences were introduced. This week was designed to help participants

develop the group and problem-solving skills they needed to work in groups to accomplish their summer tasks.

During the remaining weeks, the program used project-based learning to teach information technology skills. Projects included: (a) digital story telling/movie-making, (b) graphic design, (c) web site creation, (d) presentation and office software, (e) 3D animation, and (f) use of peripheral hardware (scanner, DV cameras, etc.). A wide range of the latest software is used including Cinema 4D, Adobe Illustrator, Adobe Photoshop, iMovie, Final Cut Pro, PowerPoint, Keynote, PageMaker, Flash, Extensis InDesign, GarageBand and Macromedia Dreamweaver. Participants also learned how to connect, troubleshoot and use computer networks. All classes had a curriculum description that identified the pedagogical approach and linked the skill sets to be learned to school content standards. Products included animated logos, five to ten minute movies, a magazine focused on teen issues, and a website. All projects were designed to help participants gain literacy, math and higher-level thinking skills, and were completed in teams. Participants at all sites except Cambria received a monetary stipend for the summer, ranging between $200 and $500.

Methods

Data Collection

Self-report survey data was collected from all entering 2013 YI Summer Program participants at 13 different sites prior to the start and during the last week of the program or shortly after. Two surveys were completed. The first was the Leadership Skills Inventory (Karnes & Chauvin, 2000), a standardized leadership instrument which measures nine areas of leadership skills. The instrument has been shown to have strong reliability and validity. The second instrument, The Youth Institute Survey, is a combined instrument measuring positive youth development, technology skills and educational attitudes. The positive youth development measures were created by the researchers based on The Toolkit for Evaluating Positive Youth

Development (The Colorado Trust, 2004). The technology skill items reflected the current YI technology curriculum. The three educational attitude measures came from The School Attitude Assessment Survey – Revised Edition (McCoach & Siegle, 2003), a standardized measure with strong reliability and validity.

Sample

One-hundred and ninety-eight (85%) of the 232 new YI participants who completed the summer program had consents and both pre- and post-assessment data and were included in these analyses. As shown in Table 1, just over half (52%) of participants were male. Latinos (60%) were the largest ethnic group, followed by African-Americans (20%). Participants ranged from 11 to 18 years old, with an average age of 14. About half (52%) were middle school students.

Table 1

Description of 2013 Replication Youth Institute Summer Program Participants

(N = 198)

	%	N
Site		
THINK Together (4 sites)	20%	41
Stephens Middle School	19%	37
Central Bay (Berkeley) YMCA	16%	31
Weingart East L.A. YMCA	9%	18
Anaheim YMCA	8%	16
Weingart South L.A. YMCA	8%	15
San Luis Obispo (Cambria) YMCA	7%	14
East Palo Alto YMCA	7%	13
Seattle YMCA	3%	7
Crenshaw YMCA	3%	6
Gender		
Male	52%	102
Female	48%	96
Ethnicity		
Latino	60%	119
African-American	20%	39
Asian American/Pacific Islander	8%	15
Bi/Multicultural	8%	17
White	4%	8
Age at Program Start		
11	6%	12
12	17%	33
13	21%	43
14	28%	55
15	15%	30
16	5%	10
17	7%	14
18	1%	1

Table 1 (Continued)	%	N
Grade at Program Start		
5th	1%	1
6th	9%	17
7th	17%	34
8th	26%	52
9th	25%	50
10th	11%	24
11th	9%	17
12th	2%	3

Analysis

Measures

Leadership Skill Scales

Nine types of leadership skills were measured including fundamentals of leadership (α = .90), written communication (α = .90 to .92), speech communication (α = .92), character-building (α = .92 to .93), decision-making (α = .89 to .90), group dynamics (α = .94), problem-solving (α = .89 to .94), personal skills (α = .93), and planning skills (α = .94). Participants rated themselves on a scale ranging from 0 "Almost Never" to 3 "Almost Always." An overall leadership scale was also created using the mean of the nine scales (a = .99). Higher scores indicated better self-perceived skills. Skill changes were explored using paired-samples t-tests.

Educational Attitude Scales

Three educational attitudes were measured including academic self-perceptions (α = .87 to .90), goal valuation (α = .92 to .93), and motivation/self-regulation (α = .93 to .95). The academic self-perception scale consisted of six 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 education. 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. An overall educational attitudes scale (α = .94 to .96), using the means of the three scales, was also created. 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 Development Scales

The cultural competence scale (α = .81 to .84) consisted of seven 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 connected to and proud of my own culture." The life skills scale (α = .82 to .84) 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 = .73 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 = .77 to .80) was made of six items measuring how youth view themselves and their abilities to cope with the basic life challenges. Questions included, "I can handle whatever comes my way" and "I feel I can make a difference."

The social competency/responsible choices scale (α = .75 to .78) 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 = .76 to .78)

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 = .89 to .90) consisted of three items measuring the 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 I can talk to about my problems." An overall positive youth development scale (α = .76 to .78) was also created, using the means of the seven scales.

The overall technology scale consisted of 13 questions measuring different types of technology skills. Participants rated themselves on a scale ranging from 1 "No Skills" to 4 "Excellent Skills." Higher scores indicated better self-perceived skills. Skill changes were explored using paired-samples t-tests. Questions included; "How do you rate your skills in web design," and "How do you rate your skills in presentation software?" The scale reliability was α = .91.

Results

Leadership Skills

As shown in Table 2, summer YI participants reported significantly higher fundamentals of leadership, t (195) = 4.04, $p < .05$; written communication, t (197) = 4.22, $p < .05$; speech communication, t (197) = 3.36, $p < .05$; group dynamics, t (191) = 3.30, $p < .05$; problem-solving, t (189) = 4.11, $p < .05$; personal skills, t (189) = 3.91, $p < .05$; and planning skills, t (190) = 3.97, $p < .05$, at the end of the summer program. The greatest gains occurred in the areas of written communication and problem-solving.

Table 2

2013 Replication YI Summer Program Participants Report of Changes in Leadership Skills

	Before Summer			End of Summer		
Skills	Mean	SD	N	Mean	SD	Difference
Fundamentals of Leadership	2.13	.63	196	2.29	.60	.15**
Written Communication	1.92	.69	198	2.11	.60	.19**
Speech Communication	1.97	.64	198	2.10	.61	.13**
Character Building	2.36	.49	192	2.42	.49	.07
Decision-Making	2.30	.54	193	2.37	.51	.08
Group Dynamics	2.18	.57	192	2.30	.49	.12**
Problem-Solving	2.13	.68	190	2.30	.56	.18**
Personal	2.28	.51	190	2.39	.47	.12**
Planning	2.16	.57	191	2.30	.53	.14**

**p < .05

Technology Skills

Technology skills were measured by self-report of skill level with 13 types of technology. Participants rated themselves on a scale ranging from 1 “No Skills” to 4 “Excellent Skills.” As shown in Table 3, participants reported significantly higher skills in all technology areas including, email use, t (196) = 6.32; Internet use, t (193) = 3.03, $p < .05$; web design, t (194) = 11.80; word processing software, t (191) = 7.69, $p < .05$; data processing software, t (195) = 6.97, $p < .05$; digital video filming, t (194) = 10.26, $p < .05$; using the computer to complete school assignments, t (194) = 3.79; digital music creation, t (194) = 14.77, $p < .05$; presentation software, t (189) = 7.24, $p < .05$; digital video editing software, t (194) = 14.23, $p < .05$; graphic design, t (195) = 12.87, $p < .05$; digital photography, t (194) = 12.93, $p < .05$; and animation, t (195) = 7.04, $p < .05$, at the end of the summer program.

Table 3

2013 Replication YI Summer Program Participants Report of Changes in Technology Skills

	Before Summer			End of Summer		
Technology	Mean	SD	N	Mean	SD	Difference
Email use.	2.83	.93	197	3.20	.84	.38**
Internet use (visit websites/surf web).	3.41	.72	194	3.57	.63	.15**
Web design (construction, layout, domain registration, maintenance, applications, Dreamweaver, Photoshop, HTML, peripheral configuration).	2.00	.94	195	2.84	.75	.84**
Word processing software (Word) to write reports and/or letters.	2.91	.92	192	3.46	.70	.55**
Data processing software (Excel) for databases or spreadsheets.	1.97	.97	196	2.49	.94	.52**
Digital Video Filming (Camera, lighting, etc.)	2.27	1.03	195	3.11	.79	.84**
Using the computer to complete school assignments.	3.21	.85	195	3.43	.66	.23**
Digital music creation (GarageBand, Reason, Logic Pro).	2.00	1.08	195	3.15	.81	1.15**
Presentation software (PowerPoint, Keynote, Inspiration).	2.72	1.01	190	3.26	.78	.54**
Digital Video Editing (Final Cut Pro, iMovie, After Effects, etc.).	1.92	1.02	195	2.96	.86	1.05**
Graphic Design (Photoshop, Illustrator, InDesign).	2.04	1.05	196	3.04	.80	1.00**
Digital Photography (DSLR camera, lighting, memory card, Photoshop, etc.).	2.06	1.00	195	2.97	.79	.91**
Animation (Cinema 4D, After Effects, Stop Motion).	1.76	.95	196	2.24	.99	.48**

**p < .05

Educational Attitudes

As shown in Table 4, these youth did not report any changes in their educational attitudes.

Table 4

2013 Replication YI Summer Program Participants Report of Changes in Educational Attitudes

	Before Summer			End of Summer		
Educational Attitude Scale	Mean	SD	N	Mean	SD	Difference
Academic Self-Perceptions	5.50	1.00	197	5.55	1.04	.05
Goal Valuation	6.35	.87	197	6.35	.91	.00
Motivation/Self-Regulation	5.42	1.12	198	5.49	1.10	.08

**p < .05

Positive Youth Development

As shown in Table 5, at the end of the summer, participants did not report differences on any of the seven positive youth development measures.

Table 5

2013 Replication YI Summer Program Participants Report of Changes in Positive Youth Development

	Before Summer			End of Summer		
Development Scale	Mean	SD	N	Mean	SD	Difference
Cultural Competence	3.48	.46	192	3.54	.43	.05
Life Skills	3.16	.43	198	3.16	.40	-.01
Positive Core Values	3.31	.42	192	3.29	.40	-.02
Sense of Self	3.23	.49	191	3.23	.47	.00
Social Competency/Personal Responsibility	3.35	.49	191	3.37	.42	.02
Community Involvement	2.98	.60	182	2.98	.56	-.00
Caring Adult Relationships	3.21	.81	185	3.31	.73	.10

**p < .05

Demographic Comparisons of YI Outcomes

Multivariate analysis of variance (MANOVA) was then used to determine whether there were gender, grade level (high school versus middle school) or geographic location (rural vs. urban) differences in how participants responded to the intervention. In order to control the Type II area rate, the overall scales in each category were used in these analyses.

Gender Comparisons

As shown in Table 6, female YI students showed significantly higher technology skills compared to YI males, at the end of the summer program, F (1, 448) = 4.77, $p < .05$. This was true even though they reported significantly lower technology skills at program entry.

Table 6

Gender Comparisons of Summer 2013 Replication Site Participants

	Males		Females		
	Adjusted Mean	N	Adjusted Mean	N	F-Value
Leadership Skills	2.31	101	2.29	94	.20
Technology Skills	2.97	101	3.15	96	8.04**
Educational Attitudes	5.70	102	5.76	96	.35
Positive Youth Development	3.25	96	3.30	96	1.36

**Significant differences between groups at the .05 level

School Level Comparisons

As shown in Table 7, there were no significant school level differences in any of the four outcome areas after intervention.

Table 7

School Level Comparisons for Summer 2013 Replication Site Participants

	High School		Middle School		
	Adjusted Mean	N	Adjusted Mean	N	F-Value
Leadership Skills	2.28	97	2.32	98	.52
Technology Skills	3.11	97	3.00	100	2.50
Educational Attitudes	5.67	98	5.79	100	1.64
Positive Youth Development	3.26	95	3.29	97	.46

**Significant differences between groups at the .05 level

Geographic Location Comparisons

In order to investigate geographic differences in program outcomes, a random selection of urban middle school participants were selected since there was only one site that could be classified as rural. Approximately three urban youth were selected for each rural youth. As shown in Table 8, there were no significant differences between rural and urban youth on any of the four outcome areas.

Table 8

Geographic Location Differences for Summer 2013 Replication Site Participants

	Urban		Rural		
	Adjusted Mean	N	Adjusted Mean	N	F-Value
Leadership Skills	2.26	41	2.20	14	.44
Technology Skills	2.99	42	3.03	14	.12
Educational Attitudes	5.83	42	5.87	14	.04
Positive Youth Development	3.30	40	3.18	14	1.56

**Significant differences between groups at the .05 level

Ethnicity

Linear regression analyses were run to determine whether ethnicity was related to any of the overall scale measures. Ethnic groups were recoded to "0" and "1." The five ethnic measures were Latino, African American, Asian American/Pacific Islander, Multicultural, and White. The findings indicated that, after controlling for baseline measure, ethnicity did not significantly predict any of the measures. These results suggest that there likely were not ethnic differences in how the program impacted these youth.

Conclusions

Overall, the results of the 2013 YI Summer Program across the Replication sites were somewhat mixed. While the program appeared to positively influence youth in terms of leadership and technology skills, no changes were found in either educational attitudes or positive youth development. At the end of the summer, these youth rated themselves significantly higher on seven (78%) of the leadership skills measured. Thus, it appears that program participation helped youth to develop a diverse range of leadership skills that should prove beneficial to them both in school, the larger community, and in the future. This is particularly true since many of the leadership skills measured here are similar to the skills that have been identified as necessary to compete in the 21st century (The Partnership for 21st Century Learning Skills, 2003).

Similarly, these youth self-reported significantly better technology skills on all of the 13 skills measured here, including e-mail, Internet use, web design, word processing, data processing, digital video filming, use of computers to complete school assignments, digital music creation, presentation software, digital video editing, graphic design, digital photography, and animation. These findings suggest that the summer program, with its intensive technology focus, was able to teach participants a wide variety of high-end digital media skills. This is encouraging

since people with strong technological skills are becoming more highly valued in the workforce (Baron, 2002). These findings are also very positive given low-income youth have been shown to have lower levels of technology access and skill, both of which are critical for school and productive adult employment (Morse, 2004; Warschauer & Matuchniak, 2010).

Another anticipated outcome of the YI are improved educational attitudes, however, these youth did not evidence any changes on the educational attitude measures. It may be helpful to provide additional educational supports such as homework help, college field trips, class selection workshops or academic counseling support to these youth in the coming year to help encourage these important educational attitudes. Efforts to increase these attitudes should be useful since all have been linked to higher academic achievement (Erkman, Caner, Sart, Borkan & Sahan, 2010; Pershey, 2010; Suldo, Shaffer & Shaunessy, 2008; McCoach & Siegle, 2003).

The YI is designed to incorporate positive youth development strategies into all aspects of the program, since participation in youth development programs has been shown to enhance academic success (Hall, Yohalem, Tolan & Wilson, 2003) while reducing involvement in adolescent problem behaviors (Roffman, Pagano & Hirsch, 2001; Meltzer, Fitzgibbon, Leahy & Petsko, 2006). Given that the YI integrates a positive youth development approach into all aspects of the program, the lack of movement in these areas is somewhat perplexing. YI staff may want to provide more staff training or coaching in positive youth development practices in the hopes of increasing these factors, given it is a key goal of the program. During the year-round program, strategies to increase positive youth development should be incorporated. Working on establishing positive adult relationships may prove particularly meaningful given that such relationships have been shown to predict more successful adolescent development (Serido, Borden & Perkins, 2011; Dubois, Portillo, Rhodes, Silverthorn & Valentine, 2011),

higher levels of school commitment and achievement, and less involvement in delinquency and other problem behaviors (Paxton, Valois, Huebner & Drane, 2006). It should also prove beneficial to identify ways in which these youth can contribute to their community as a mechanism for increasing positive youth development and leadership skills.

Demographic Differences in Program Impact

Additional analyses were run to determine whether the program outcomes in leadership, technology, educational attitudes, and positive youth development differed by gender, school level, and ethnicity. In all of the comparisons, the only significant difference was found with gender and technology, as girls reported significantly higher technology skills after the program than boys. The program appears to have increased the technology skills of girls much more than those of boys. However, for the most part, the program seems to have had the same impact on youth regardless of demographic characteristics. This suggests the program can result in similar outcomes regardless of the demographic differences present.

In conclusion, the program appears to have met its goals of increasing the social and interpersonal competence and technology skills of youth, all of which have been found to be useful in higher education and the workforce (Lippman, Atienza, Rivers & Keith, 2008; Warschauer & Matuchniak, 2010). These findings were similar regardless of gender, grade level, geographic location and ethnicity. Year-round efforts should be focused on developing and implementing strategies or components to enhance educational attitudes and positive youth development. It will be interesting to see whether these youth exhibit additional changes after participating in the year-round program.

References

Baron, P. E. (2002). Meeting the need for scientists, engineers, and an educated citizenry in a technological society. Princeton, JN: Policy Information Center Report, Educational Testing Service. Retrieved from: http:ets.org/research/pic/meetingneed.pdf

DuBois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., & Valentine, J. C. (2011). How effective are mentoring programs for youth? A systematic assessment of the evidence. *Psychological Science in the Public Interest, 12*, 57-91.

Erkman, F., Caner, A., Sart, H., Borkan, B., & Sahan, K. (2010). Influence of perceived teacher acceptance, self-concept, and school attitude on the academic achievement of school-age children in Turkey. *Cross-Cultural Research, 44*, 295-309.

Hall, G., Yohalem, N., Tolman, J., & Wilson, A. (2003). *How afterschool programs can most effectively promote positive youth development as a support to academic achievement: A report commissioned by the Boston after-school for all partnership.* Washington, DC: National Institute on Out-of-School Time.

Karnes, F. A. & Chauvin, J. C. (2000). *Leadership development program manual.* Scottsdale AZ: Gifted Psychology Press, Inc.

Lippman, L., Atienza, A., Rivers, A., & Keith, J. (2008). *A developmental perspective on college & workplace readiness.* Child Trends. Retrieved from: http://www.childtrends.org/Files/Child_Trends-2008_09_15_FR_ReadinessReport.pdf

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*, 414-429.

Meltzer, I. J., Fitzgibbon, J. J., Leahy, P. J., & Petsko, K. E. (2006). A youth development program: Lasting impact. *Clinical Pediatrics, 45*, 655–660.

Morse, T. E. (2004). Ensuring equality of educational opportunity in the digital age. *Education and Urban Society, 36,* 266-279.

Paxton, R. J., Valois, R. F., Huebner, E. S., & Drane, J. W. (2006). Opportunity for adult bonding/meaningful neighborhood roles and life-satisfaction among USA middle school students. *Social Indicators Research, 79,* 291-312.

Pershey, M. G. (2010). A comparison of African American students' self-perceptions of school competence with their performance on state-mandated achievement tests and normed tests of oral and written language and reading. *Preventing School Failure, 55,* 53-62.

Roffman, J. G., Pagano, M. E., & Hirsch, B. J. (2001). Youth functioning and experiences in inner-city after-school programs among age, gender, and race groups. *Journal of Child and Family Studies, 10,* 85-100.

Serido, J., Borden, L. M., & Perkins, D. F. (2011). Moving beyond youth voice. *Youth & Society, 43,* 44-63.

Suldo, S. M., Shaffer, E. J., Shaunessy, E. (2008). An independent investigation of the validity of the school attitude assessment survey-revised. *Journal of Psychoeducational Assessment, 26,* 69-82.

The Colorado Trust. *The after-school initiative's toolkit for evaluating positive youth development.* Denver, CO: The Colorado Trust, 2004.

The Partnership for 21st Century Learning Skills. *Learning for the 21st century: A report and mile guide for 21st century skills.* Washington DC: Partnerships for 21st Century Skills, 2003. Retrieved from: http://www.21stcenturyskills.org/downloads/P21_Report.pdf

Warschauer, M., & Matuchniak, T. (2010). New technology and digital worlds: Analyzing evidence of equity in access, use, and outcomes. *Review of Research in Education, 34,* 179-225.