

**Evaluation of the Effects of All 2015
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, 2015, the YI program was replicated at three sites in California and two sites in 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 and grade level.

Intensive Technology Summer Program

Across the five Replication Youth Institute sites, incoming youth participated in a 35 hour per week, six 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 was 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. Youth Institute participants at all replication sites received a monetary stipend for the summer, ranging between \$200 and \$500.

Methods

Data Collection

Self-report survey data was collected from all entering 2015 YI Summer Program participants at five different sites prior to the start and during the last week of the program. The survey measured leadership skills, technology skills, educational attitudes and positive youth development. The leadership skills questions came from a revised version of the Leadership Skills Inventory (Karnes & Chauvin, 2000), a standardized leadership instrument which measures nine areas of leadership skills. The positive youth development measures were created by the researchers to evaluate this project based on The Toolkit for Evaluating Positive Youth Development (The Colorado Trust, 2004). The technology skills section was created by the

research team and the 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

Fifty-seven (86%) of the 66 new YI participants who completed the summer program had consents and both pre- and post-assessment data and are included in these analyses. As shown in Table 1, almost two-thirds (65%) of participants were male. Latinos (44%) were the largest ethnic group, followed by European-Americans (26%). Participants ranged from 13 to 17 years old, with an average age of 14. Almost three-fourths (71%) were high school students.

Table 1
Description of 2015 Replication Youth Institute Summer Program Participants
(N= 57)

	%	N
Site		
East Palo Alto	30%	17
San Diego	26%	15
Seattle – KTUB	21%	12
Seattle – Snoqualmie	12%	7
Lakewood-Hawaiian Gardens	11%	6
Gender		
Male	65%	37
Female	35%	20
Ethnicity		
Latino	44%	25
European-American (White)	26%	15
Multicultural	14%	8
African-American	9%	5
Asian-American/Pacific Islander	5%	3
Middle Eastern	2%	1
Age at Start of Program		
13	32%	18
14	32%	18
15	28%	16
16	5%	3
17	3%	2
Grade		
7 th	3%	2
8 th	24%	14
9 th	37%	21
10 th	28%	16
11 th	3%	2
12 th	3%	2

Analysis

Measure

Leadership Skill Scales

Nine types of leadership skills were measured. The fundamentals of leadership scale ($\alpha = .69$) consisted of five items measuring general leadership skills. Questions included, “I understand the meaning of the term leader” and “I am able to identify the various styles of leadership.” The written communication scale ($\alpha = .83$ to $.84$) consisted of eight items. Questions included, “I know how to get and use written information” and “I can write my ideas so that others can read and understand them.” The speech communication scale ($\alpha = .78$ to $.88$) consisted of seven items. Questions included, “I can state and defend my viewpoint” and “I can deliver a prepared speech to a group.”

The character-building scale ($\alpha = .76$ to $.84$) consisted of ten items. Questions included, “I understand my own feelings” and “I care about others and treat others fairly.” The decision-making scale ($\alpha = .75$ to $.81$) consisted of six items. Questions included, “I can accept advice from others” and “I can analyze facts before making a decision.” The group dynamics scale ($\alpha = .87$ to $.91$) consisted of 13 items. Questions included, “I keep in mind the best interests of the group” and “I can lead a group so that people feel safe expressing their opinions.” The problem-solving scale ($\alpha = .80$ to $.87$) consisted of six items. Questions included, “I know and use the elements of problem-solving” and “I can select the best way to solve a problem.”

The personal skills scale ($\alpha = .86$ to $.87$) consisted of 13 items. Questions included, “I am self-confident,” and “I feel comfortable in most situations.” The planning skills scale ($\alpha = .89$ to $.91$) consisted of 12 items. Questions included, “I have organizational skills,” and “I can develop and keep to a timeline.” Participants rated themselves on a scale ranging from 0 “Almost Never” to 3 “Almost Always.” Higher scores indicated better self-perceived skills. Changes in skills were investigated using paired-samples t-tests.

Technology Skills

Technology skills were measured using 12 individual 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?”

Educational Attitude Scales

Three educational attitudes were measured including academic self-perceptions ($\alpha = .87$ to $.90$), goal valuation ($\alpha = .88$ to $.97$), and motivation/self-regulation ($\alpha = .93$ to $.95$). 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 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. 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-samples t-tests.

Positive Youth Development Scales

The cultural competence scale ($\alpha = .77$ to $.83$) 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 ($\alpha = .77$ to $.78$) consisted of six items measuring proficiencies that

allow youth to transition into and achieve successful adulthood. Questions included, “I am good at making friends” and “I am good at telling others about my ideas and feelings.”

The positive core value scale ($\alpha = .71$ to $.87$) consisted of six 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 ($\alpha = .70$ to $.76$) consisted of five 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 believe I can make a difference.”

The social competency/responsible choices scale ($\alpha = .71$ to $.77$) consisted of five 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 should work to get something, if I really want it.” The community involvement scale ($\alpha = .81$ to $.82$) consisted of five 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 ($\alpha = .89$ to $.93$) consisted of five 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 who I can talk to about my problems.”

Overall Scales for Demographic Comparisons

For the demographic comparisons, overall scales were computed for each of the scales listed above. The overall Leadership ($\alpha = .97$ to $.98$) scale consisted of 80 questions from the

nine leadership scales. The overall Educational Attitudes ($\alpha = .95$ to $.97$) scale consisted of 23 questions from the three educational attitudes scales. The overall Positive Youth Development ($\alpha = .95$) scale consisted of 40 questions from the seven youth development scales. The overall technology ($\alpha = .87$ to $.91$) scale consisted of the 12 individual questions measuring the different types of technology skills.

Results

Leadership Skills

As shown in Table 2, summer YI participants reported significantly higher fundamentals of leadership, $t(56) = 3.33, p < .05$; written communication, $t(56) = 4.16, p < .05$; speech communication, $t(55) = 4.47, p < .05$; decision-making, $t(55) = 3.30, p < .05$; group dynamics, $t(56) = 4.70, p < .05$; problem-solving, $t(56) = 3.48, p < .05$; personal skills, $t(55) = 2.95, p < .05$; and planning skills, $t(55) = 3.15, p < .05$, at the end of the summer program. The greatest gains occurred in the areas of speech communication, written communication, group dynamics and problem-solving.

Table 2

2015 Replication YI Summer Program Participants Report of Changes in Leadership Skills

Skills	Before Summer			End of Summer		
	Mean	SD	N	Mean	SD	Difference
Fundamentals of Leadership	2.28	.45	57	2.50	.42	.22**
Written Communication	1.89	.60	57	2.19	.51	.29**
Speech Communication	2.02	.68	56	2.39	.48	.37**
Character Building	2.53	.41	56	2.59	.33	.06
Decision-Making	2.36	.48	56	2.54	.42	.18**
Group Dynamics	2.13	.57	57	2.41	.44	.28**
Problem-Solving	2.09	.61	57	2.32	.53	.23**
Personal	2.31	.48	56	2.46	.41	.15**
Planning	2.15	.59	56	2.35	.47	.20**

* $p < .10$, ** $p < .05$

Technology Skills

Technology skills were measured by self-report of skill level with 12 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 email use, $t(55) = 2.90, p < .05$; data processing software, $t(55) = 2.14, p < .05$; digital video filming, $t(55) = 5.75, p < .05$; using the computer to complete school assignments, $t(55) = 2.18$; digital music creation, $t(55) = 4.90, p < .05$; presentation software, $t(55) = 3.72, p < .05$; digital video editing software, $t(55) = 6.06, p < .05$; graphic design, $t(55) = 5.50, p < .05$; digital photography, $t(55) = 4.65, p < .05$; and animation, $t(55) = 2.50, p < .05$, at the end of the summer program. The largest gains were found in digital video editing, digital music creation, digital video filming, digital photography and graphic design.

Table 3
2015 Replication YI Summer Program Participants Report of Changes in Technology Skills

Technology	Before Summer			End of Summer		
	Mean	SD	N	Mean	SD	Difference
Email use.	3.00	.87	56	3.30	.74	.30**
Internet use (visit websites/surf web).	3.57	.60	56	3.63	.62	.05
Word processing software (Word) to write reports and/or letters.	3.32	.80	53	3.40	.72	.07
Data processing software (Excel) for databases or spreadsheets.	2.55	.97	56	2.86	.96	.30**
Digital Video Filming (Camera, lighting, etc.)	2.45	1.04	56	3.23	.74	.79**
Using the computer to complete school assignments.	3.27	.82	56	3.52	.69	.25**
Digital music creation (GarageBand, Reason, Logic Pro).	2.18	1.06	56	2.98	.92	.80**
Presentation software (PowerPoint, Keynote, Inspiration).	3.04	.95	56	3.50	.76	.46**
Digital Video Editing (Final Cut Pro, iMovie, After Effects, etc.).	2.23	1.13	56	3.11	.82	.87**
Graphic Design (Photoshop, Illustrator, InDesign).	2.41	1.07	56	3.18	.83	.77**
Digital Photography (DSLR camera, lighting, memory card, Photoshop, etc.).	2.25	1.10	56	3.02	.88	.77**
Animation (Cinema 4D, After Effects, Stop Motion).	2.02	.94	56	2.38	.96	.36**

*p < .10, **p < .05

Educational Attitudes

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

Table 4

2015 Replication YI Summer Program Participants Report of Changes in Educational Attitudes

Educational Attitude Scale	Before Summer			End of Summer		
	Mean	SD	N	Mean	SD	Difference
Academic Self-Perceptions	5.05	1.11	54	5.23	1.18	.18
Goal Valuation	5.89	.96	54	5.91	1.27	.02
Motivation/Self-Regulation	5.18	1.10	54	5.26	1.24	.08

* $p < .10$, ** $p < .05$

Positive Youth Development

As shown in Table 5, participants self-reported significant improvement in life skills, $t(56) = 2.64, p < .05$; and social competency/personal responsibility, $t(56) = 2.47, p < .05$; and somewhat of an improvement in cultural competence, $t(56) = 1.99, p < .10$, and positive core values, $t(56) = 1.89, p < .10$, at the end of the summer program.

Table 5
2015 Replication YI Summer Program Participants Report of Changes in Positive Youth
Development

Development Scale	Before Summer			End of Summer		
	Mean	SD	N	Mean	SD	Difference
Cultural Competence	3.59	.40	57	3.67	.35	.08*
Life Skills	3.28	.50	57	3.45	.45	.17**
Positive Core Values	3.42	.51	57	3.54	.39	.12*
Sense of Self	3.17	.44	57	3.26	.50	.09
Social Competency/Personal Responsibility	3.38	.49	57	3.52	.40	.14**
Community Involvement	3.02	.63	57	3.12	.59	.10
Caring Adult Relationships	3.29	.66	57	3.42	.64	.12

* $p < .10$, ** $p < .05$

Gender and School Level Comparisons of Overall YI Outcomes

Multivariate analysis of variance (MANOVA) was then used to determine whether there was gender or grade level (high school versus middle school) differences in how participants responded to the intervention. In order to control the Type II error rate, the overall scales in each category were used in these analyses. No significant differences were found for gender or school level on any of the outcome measures.

Ethnicity and Overall YI Outcomes

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 two ethnic measures were Latino and White, since there were too few of any other ethnicities for inclusion.

The findings indicated that, after controlling for baseline measures, no significant differences were found between Latinos and Whites on any of the outcome measures.

Conclusions

Overall, the results of the 2015 YI Summer Program across the Replication sites are encouraging, showing significant gains, in particular, in the areas of leadership and technology, and, to some extent, positive youth development as hypothesized by the model. While it is not possible to definitely conclude the changes found here were solely the result of the YI, it is unlikely that changes in so many diverse areas would be found in such a short period of time without some type of intervention. Similar to last year, at the end of the summer, these youth rated themselves significantly higher on eight (89%) 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 in school, the larger community, and in their futures. 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). Additionally, it is likely that the gains in written communication, speech communication, and problem-solving skills, which have been linked to better academic performance (Adachi & Willoughby, 2013), will prove beneficial as these youth return to school.

These youth also self-reported significantly better technology skills on 83% of the skills measured here, including e-mail, 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 are not surprising given the focus of the summer curriculum, and 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 encouraging 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 is improved educational attitudes. In contrast with last year, when there were significant improvements reported on both academic self-perceptions and motivation/self-regulation, no changes in educational attitudes were found within the 2015 cohort. Past evaluations of the summer YI have found fewer changes in this area than in other areas hypothesized to be influenced by the model. These changes are important given research has indicated that higher academic self-perceptions are both related to, and predictive of, better academic outcomes (Erkman, Caner, Sart, Borkan & Sahan, 2010; Pershey, 2010) and motivation/self-regulation has been found to be related to higher levels of achievement among high school students (Suldo, Shaffer & Shaunessy, 2008; McCoach & Siegle, 2003). YI and Replication staff may want to review the summer schedule and program activities to determine whether enough emphasis is placed on education in the summer which may be challenging during the relatively short duration of the program, especially in some locations. Thus, it will be important for YI staff to continue to support academics and expose youth to higher education in the year-round program to further increase the likelihood of positive academic achievement, high school graduation, and entry into higher education. Strategies for this may include academic counseling, tutoring, exposure to higher education (field trips, college informational sessions), and activities that link academics to long-term career and life goals. A strong focus on the promotion of educational attitudes will be important given research has indicated that higher academic self-perceptions are both related to, and predictive of, better academic outcomes (Erkman, Caner, Sart, Borkan & Sahan, 2010; Pershey, 2010); and motivation/self-regulation has

been found to be related to higher levels of achievement among high school students (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). Thus, it is somewhat encouraging that these youth reported some (cultural competence, positive core values) and significant improvement (life skills, social competency/personal responsibility) on 57% of the youth development areas. Incorporating volunteer or service learning activities may prove beneficial during the year-round program given community involvement has been linked to better academic achievement, increased self-efficacy, better attitudes toward school and education, higher levels of community involvement, and better leadership and empathy skills (Celio, Durlak & Dymnicki, 2011). Year-round YI staff should continue to work on establishing positive adult relationships since these type of 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).

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. There were no outcomes differences on any of these demographic variables, suggesting that the program worked in similar ways for diverse populations.

The 2015 summer YI Replication program appears to have increased the social and interpersonal competence, the technology skills, and positive youth development of youth, all of which have been found to be predictive of positive development, and greater education, career and life success (Lippman, Atienza, Rivers & Keith, 2008; Warschauer & Matuchniak, 2010). Overall, the findings in the areas of leadership, technology and positive youth development are quite similar to those found last year even with the addition of two new sites and fewer youth. Thus, it appears the YI Replication program has made consistent, substantial progress toward meeting its goals three of the areas hypothesized in the program model. These findings were consistent regardless of gender, grade level, and ethnicity, suggesting the program can be successfully replicated, if done with fidelity, with diverse populations. As noted earlier, it may be more difficult to positively influence educational attitudes so additional attention to this area in both the summer and year-round programs is indicated.

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