

# **IUPUI Summer Success Academy Report: An Examination of Academic Success Outcomes**

**Prepared by**

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## Report Notes and Results Highlights

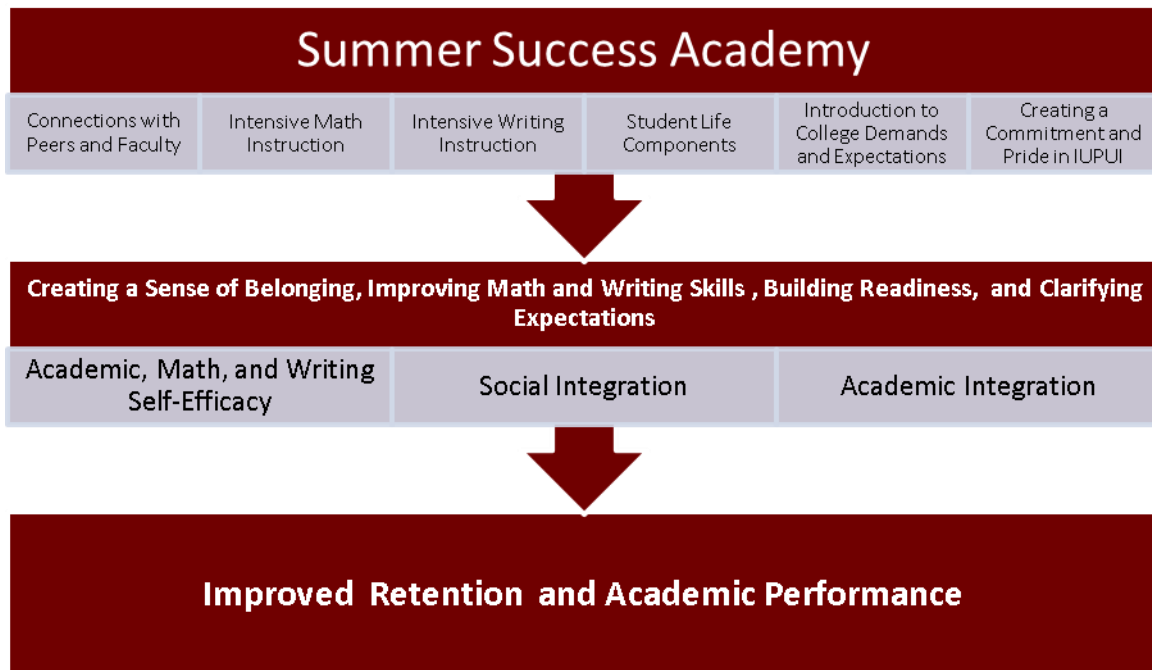
- The purpose of this investigation was to 1) determine the characteristics of students participating in the 2009-2012 Summer Success Academy programs, 2) enhance understanding of how Summer Academy participation influences students' academic performance levels and retention rates and, 3) examine the effects of the program on African American and Latino(a) students' levels of academic success.
- Ideally this report serves to provide information to help guide decision making and address fundamental questions such as the following: 1) Are we serving these at-risk students well by admitting them? 2) Is the SSA meeting these students' needs well by providing them the support and academic assistance they need to be successful at IUPUI?, and 3) Do we need to provide different support types and levels to serve them well?
- Finding appropriate comparison groups for the Conditionally Admitted Summer Success Academy (SSA) Participants proved challenging given that conditionally admitted students must complete the program as a condition of admission. Although 2006 Conditional Admits were employed as comparison group because they were the cohort admitted prior to the SSA program (the SSA program began in 2007), caution should be exercised when interpreting findings. It is important to note that the 2006 Conditional Admit students were admitted under different standards (had notably lower SAT Scores than subsequent cohorts) to a very different campus.
- Conditionally Admitted Summer Success Academy (SSA) Participants in 2009, 2010, and 2011 had significantly higher one-year retention rates compared to a comparison group of 2006 Conditional Admits (see Table 1 and Figure 1). Please note that the students who attended SSA in these years will not be admitted for Fall 2014 due to higher admission standards.
- Conditionally Admitted SSA participants in 2009, 2010, 2011, and 2012 had significantly higher fall semester academic performance compared to a comparison group of 2006 Conditional Admits. Results displayed in Table 1.
- While the 2009 SSA participants had positive academic outcomes in terms of one-year retention rates (70%), Fall Math and English performance (67% earned Math grades above 2.00 and 80% earned English grades above a 2.00), the Fall 2010 and 2011 SSA participants did not have satisfactory outcomes (e.g., only 54% in 2010 and 55% 2011 completed their first year with cumulative GPAs above 2.00). It is noteworthy that the 2010 and 2011 SSA increased in numbers of conditionally admitted students served by the program. Results shown in Table 1.
- The fall academic performance outcomes and fall-to-spring retention rate suggest that the 2012 SSA participants outperformed the 2006 comparison groups as well as the 2010 and 2011 SSA participants. A number of improvements were made to the 2012 program such as revised instruction in math and writing, social integration components, and a smaller cohort of conditionally admitted students. Additionally, the 2012 also had higher average SAT Scores. Results shown in Table 1.
- Results suggest a differential positive impact of SSA for African American and Latino students. In other words, the difference in success rates between African American/ Latino SSA students and 2006 African American/Latino Conditional Admits were larger than the difference in outcomes between the SSA Participants Overall and the 2006 Conditional Admit Overall groups. The one-year retention rate for the Fall 2011 African American SSA group was 61% compared to 45% for 2006 African American Conditional Admits. The 2012 SSA Latino group of 10 students did not perform well in their first semester. Results are shown in Table 3 and 4.
- Comparison groups within the same cohort year were formed in 2011 and 2012 based on HS GPAS, SAT scores, developmental math placement, age, and an exclusion of international students. There were a notable number of students in both years that were not admitted conditionally, did not participate in the SSA, and had low enough HS GPAs and SAT scores to allow the formation of reasonable comparison groups. Results suggest that the 2011 and 2012 SSA participants outperformed the comparison groups in many areas including overall academic performance, retention rates, and math performance. For example, 28% of 2012 SSA participants earned Fall GPAs below 2.00, while 48% of the students in the Comparison Group earned Fall GPAs below a 2.00. The one-year retention rate for the Fall 2011 SSA participants was 61% compared to 55% for Comparison Group students. Results shown in Tables 5 and 6.

## Report Notes and Results Highlights (continued)

- The vast majority of SSA participants in 2011 and 2012 received academic and social support following the program by enrolling in a First-Year Seminar Course (92% and 96% respectively). In fact, 47 2011 SSA students (21%) went on to participate in the Summer Bridge program and 11 students (12%) did so in 2012. Please see Tables 5 and 6.
- A series of analyses were conducted to investigate the performance of the following three groups of students admitted in 2012: 1) HS GPAs 2.80-2.89 and SAT Scores 800-899) HS GPAs 2.70 -2.79 and SAT Scores 1000-1199 and 3) HS GPAs 2.70-2.79 and SAT Scores 900-1199 (this group will be included in SSA in 2013). Results suggest that these students did not perform well during their first semester. If similar groups are admitted in 2013, the students may benefit from academic and social support. It is noteworthy that the percentage of African Americans in the 3rd group in 2012 was only 4% (only 3 students were African American using the new definition and 5 using the previous definition). It may be important to consider access of underrepresented groups in our surrounding community when making decisions about cutoffs for admissions. It is important to note that representatives from admissions and enrollment services have reported that the numbers of African American student applications at this point in the admission cycle (February 2013) are not raising concerns for Fall 2013 and they are working to maintain access for appropriately prepared individuals. Results are displayed in Tables 10 and 11.
- 2011 SSA participants showed significant gains in the following areas based on a pre-post questionnaire research design: Sense of Belonging, Writing Self-Efficacy, and Math Self-Efficacy. Results are displayed in Table 12.
- 2012 SSA participants showed significant gains in the following areas based on a pre-post questionnaire research design: Sense of Belonging and Math Self-Efficacy. Results are displayed in Table 13.
- SSA participants reported that the most valued aspects of the 2011 SSA and 2012 program were as follows: 1) Mathematics Components, 2) English/Writing Components, 3) Opportunity to Meet New People/Form Connections with Peers, 4) Transitional Assistance. Results shown in Tables 14 and 16.
- The 2011 SSA participants reported that the least valuable aspects of the program were the following: 1) Mathematics Components (too easy; not difficult enough to prepare for college math course demands), and 2) University College Components (not useful for learning). Results shown in Table 15.
- The 2012 SSA participants reported that the least valuable aspects of the program were the following: 1) Student Life Components, 2) Mathematics Components (too easy), and 3) Activities that Did Not Improve Learning. Results shown in Table 17.

## PROGRAM THEORY-BASED EVALUATION

This study examined the effectiveness of the Summer Success Academy for conditionally admitted students. The Summer Success Academy was designed to help students succeed academically (perform well in Math and English courses); learn to interact effectively in group settings; feel enhanced sense of belongingness and academic self-efficacy; and enhance students' commitment to IUPUI and earning their degrees at IUPUI. The purpose of the program assessment was both summative and formative. Additionally, a theory-based evaluation (TBE) methodology was utilized. The mixed-method assessment results were used to understand the program's effectiveness and provide information to guide future program development and evaluation. Shown below is the Program Theory.



# Retention and Academic Performance Outcomes of Conditionally Admitted Cohorts Prior to and After Summer Success Academy Implementation

Figure 1. Retention Rates of Conditional Admits Improve Following SSA Implementation

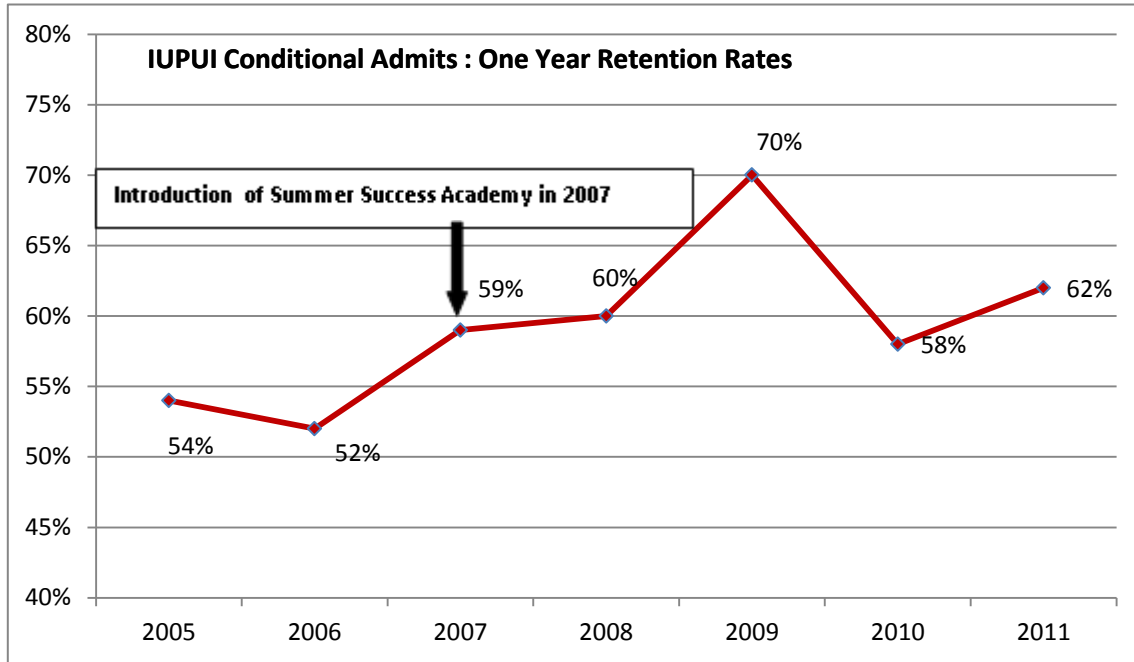
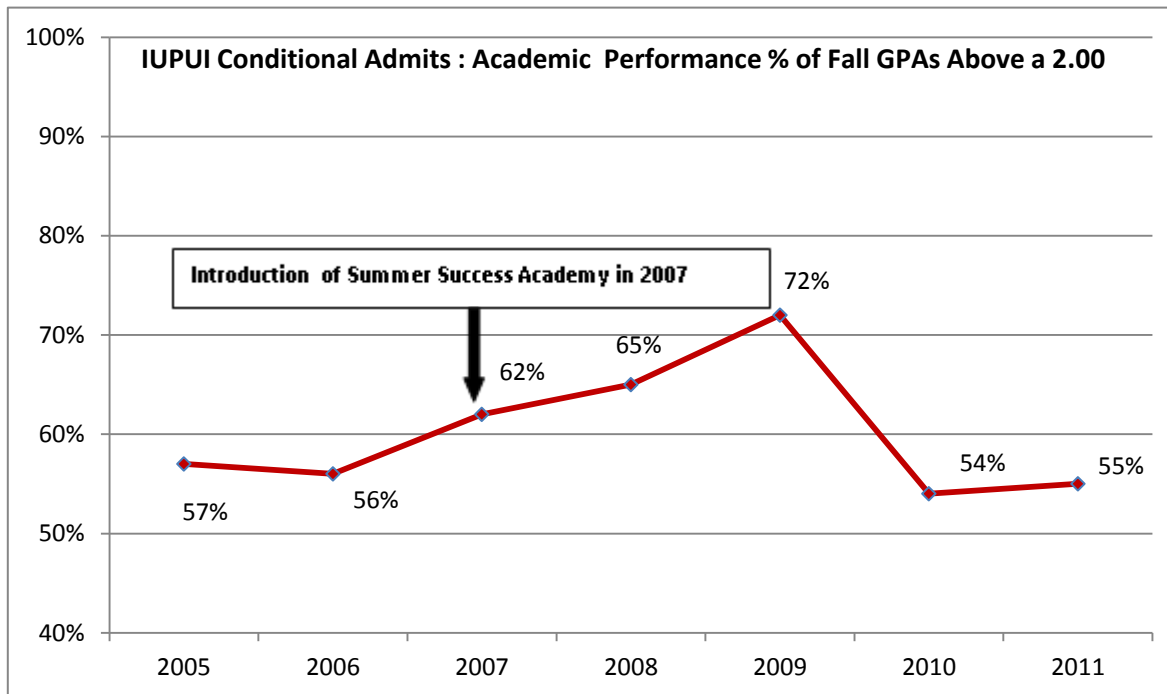


Figure 2. Academic Performance among Conditional Admits Improves in 2007, 2008, and 2009 while the Improvements are Not Evident in 2010 and 2011.



## Summer Success Academy First-Time, Full-Time Conditional Admits Compared to 2006 First-Time, Full-Time Conditional Admits Comparison Groups

**Table 1. Summer Success Academy First-Time, Full-Time Conditional Admits Compared to All 2006 First-Time, Full-Time Conditional Admits and a Matched Comparison Group**

	N	Avg. H.S. GPA	Avg. SAT Score	Avg. Fall GPA	% Fall GPA below a 2.00	Fall Math GPA	Fall Math Grade below 2.00	Fall English GPA	Fall English Grade below 2.0.	Fall – Spring Retention Rate	Fall-to-Fall Retention Rate	One-Year Success Rate % Cum. GPA 2.00 or above
2006 Conditional Admits	700	2.72	889	2.04	43%	1.67	47%	2.35	27%	82%	52%	59%
2006 Matched Comparison	206	2.79	880	2.06	41%	1.73	42%	2.41	23%	83%	56%	60%
2009 SSA	169	2.69	<b>901</b>	<b>2.35</b>	<b>28%</b>	<b>2.07</b>	<b>33%</b>	<b>2.60</b>	20%	<b>89%</b>	<b>70%</b>	<b>62%</b>
2010 SSA	179	2.71	881	<b>2.18</b>	36%	<b>2.03</b>	<b>38%</b>	2.22	28%	82%	<b>58%</b>	55%
2011 SSA	222	<b>2.65</b>	906	<b>2.14</b>	39%	<b>2.00</b>	<b>39%</b>	2.27	27%	84%	<b>61%</b>	54%
2012 SSA	94	2.73	<b>930</b>	<b>2.32</b>	<b>28%</b>	<b>2.04</b>	<b>37%</b>	<b>2.46</b>	22%	82%	N/A	N/A

Note: Bolded items are significantly different compared to the 2006 matched groups based on independent samples t-test or chi-square test results and practical significance.

Note 2: There were 112 SSA participants in Fall 2012. However, there were 94 who entered in Fall 2012 as part of the First-time, Full-time Cohort.

**Table 2. Summer Success Academy First-Time Conditional Admits (Including Students who began Fall 2012 as Part-Time Students)**

	N	Avg. H.S. GPA	Avg. SAT Score	Avg. Fall GPA	% Fall GPA below a 2.00	Fall Math GPA	Fall Math Grade below 2.00	Fall English GPA	Fall English Grade below 2.0.	Fall – Spring Retention Rate	Fall-to-Fall Retention Rate	One-Year Success Rate % Cum. GPA 2.00 or above
2012 SSA	112	2.73	926	2.31	29%	2.04	36%	2.52	20%	82%	N/A	N/A

**Table 3. African American Summer Success Academy First-Time, Full-Time Conditional Admits Compared to African American 2006 First-Time, Full-Time Conditional Admits**

	N	Avg. H.S. GPA	Avg. SAT Score	Avg. Fall GPA	% Fall GPA below a 2.00	Fall Math GPA	Fall Math Grade below 2.00	Fall English GPA	Fall English Grade below 2.0.	Fall – Spring Retention Rate	Fall- to- Fall Retention Rate	One-Year Success Rate % Cum. GPA 2.00 or above
2006 African American Conditional Admits	114	2.66	833	1.78	43%	1.48	52%	2.08	27%	79%	45%	45%
2009 SSA	30	2.65	<b>844</b>	<b>2.06</b>	<b>37%</b>	<b>2.11</b>	<b>27%</b>	<b>2.40</b>	<b>22%</b>	83%	<b>69%</b>	37%
2010 SSA	45	2.70	834	<b>2.03</b>	41%	<b>2.02</b>	<b>41%</b>	2.06	32%	82%	<b>56%</b>	<b>50%</b>
2011 SSA	62	2.67	835	<b>2.07</b>	<b>38%</b>	<b>1.73</b>	49%	2.07	<b>34%</b>	<b>87%</b>	<b>61%</b>	<b>50%</b>
2012 SSA	23	<b>2.78</b>	<b>868</b>	<b>2.36</b>	<b>22%</b>	<b>2.27</b>	<b>26%</b>	2.18	29%	<b>96%</b>	N/A	N/A

Note 1: Bolded items are significantly different compared to the 2006 matched comparison sample based on independent samples t-test or chi-square test results and practical significance. Numbers were too small in 2012 to perform or report significance tests. Bolded items seem to be practically different.

Note 2: The previous definition of African American student was used to maintain consistency between the years in order to facilitate more appropriate comparisons. Ethnic category coding changed in 2010.

**Table 4. Latino Summer Success Academy First-Time, Full-Time Conditional Admits Compared to Latino 2006 First-Time, Full-Time Conditional Admits**

	N	Avg. H.S. GPA	Avg. SAT Score	Avg. Fall GPA	% Fall GPA below a 2.00	Fall Math GPA	Fall Math Grade below 2.00	Fall English GPA	Fall English Grade below 2.0.	Fall – Spring Retention Rate	Fall- to- Fall Retention Rate	One-Year Success Rate % Cum. GPA 2.00 or above
2006 Latino Conditional Admits	21	2.78	862	2.03	36%	1.54	45%	2.00	46%	86%	50%	61%
2009 SSA	7	2.69	879	<b>2.24</b>	<b>29%</b>	<b>1.90</b>	43%	1.92	50%	86%	<b>43%</b>	58%
2010 SSA	8	2.72	921	1.98	<b>38%</b>	<b>2.30</b>	<b>25%</b>	1.58	50%	75%	<b>63%</b>	63%
2011 SSA	20	2.65	891	1.96	<b>53%</b>	<b>2.12</b>	<b>36%</b>	1.61	46%	85%	<b>65%</b>	43%
2012 SSA	10	2.73	902	1.50	<b>60%</b>	<b>1.16</b>	<b>67%</b>	1.93	<b>33%</b>	<b>50%</b>	N/A	N/A

Note: Numbers too small to perform or report significance tests. Bolded items seem to be *practically* different.

Note 2: The previous definition of Latino/Hispanic student was used to maintain consistency between the years in order to facilitate more appropriate comparisons. Ethnic category coding changed in 2010.

## 2011 and 2012 Summer Success Academy First-Time, Full-Time Conditional Admits Compared to First-Time, Full-Time NOT SSA and NOT Conditional Admitted Comparison Groups in Same Cohort

Table 5. 2011 Summer Success Academy First-Time, Full-Time Conditional Admits (N=222) Compared to 2011 First Time, Full-Time Matched Comparison Group (N= 53)

Variable	2011 SSA Mean or %	Comparison Mean or %
HS GPA	2.65	2.72
SAT Score	906	903
% HS Honors Diploma	<b>2%</b>	<b>21%</b>
Avg. Age	18.82	18.87
% Female	49%	49%
% African American	23%	23%
% Latino	10%	4%
% First-Generation	45%	40%
% Pell Grant	55%	64%
Fall Course Load	13.12	13.49
% Fall First-Year Seminar	<b>92%</b>	<b>81%</b>
% Summer Bridge Program	<b>21%</b>	<b>13%</b>
Avg. Fall GPA	<b>2.14</b>	<b>1.94</b>
% Fall GPA below a 2.00	39%	41%
Fall DWF Rate	<b>31.93%</b>	<b>36.57%</b>
Fall Math GPA	<b>2.02</b>	<b>1.86</b>
Fall Math Grade below 2.00	39%	35%
Fall English GPA	<b>2.27</b>	<b>2.11</b>
Fall English Grade below 2.0.	27%	32%
Fall-to-Spring Retention Rate	<b>84%</b>	<b>75%</b>
Fall- to-Fall Retention Rate	<b>61%</b>	<b>55%</b>
One-Year Success Rate ( % Cum. GPA >=2.00)	<b>54%</b>	<b>47%</b>

**Note 1.** The *Summer Success Academy Comparison Group* consisted of 53 First-Time, Full-time students who met the following criteria: were not conditionally admitted, did not participate in the SSA program, had High School GPAs < 2.82 and SAT Scores < 1050, placed into remedial or developmental math, were not International students, and were not over the age of 22.

**Note 2.** Bolded items are significantly different based on independent samples t-test or chi-square test results and practical significance.



**Table 6. 2012 Summer Success Academy First-Time, Full-Time Conditional Admits (N=94) Compared to 2012 First-Time, Full-Time Matched Comparison Group (N= 78)**

Variable	2012 SSA Mean or %	Comparison Mean or %
HS GPA	2.73	2.75
SAT Score	930	949
% HS Honors Diploma	<b>5%</b>	<b>24%</b>
Avg. Age	18.71	18.82
% Female	53%	47%
% African American	21%	16%
% Latino	12%	10%
% First-Generation	46%	49%
% Pell Grant	47%	43%
Fall Course Load	13.51	13.15
% Fall First-Year Seminar	<b>96%</b>	<b>86%</b>
% Summer Bridge Program	<b>12%</b>	<b>21%</b>
Avg. Fall GPA	<b>2.32</b>	<b>1.85</b>
% Fall GPA below a 2.00	<b>28%</b>	<b>48%</b>
Fall DWF Rate	<b>25%</b>	<b>42%</b>
Fall Math GPA	<b>2.04</b>	<b>1.85</b>
Fall Math Grade below 2.00	<b>37%</b>	<b>41%</b>
Fall English GPA	<b>2.46</b>	<b>2.13</b>
Fall English Grade below 2.0.	<b>22%</b>	<b>38%</b>
Fall-to-Spring Retention Rate	<b>82%</b>	<b>69%</b>
Fall- to-Fall Retention Rate	N/A	N/A
One-Year Success Rate ( % Cum. GPA >=2.00)	N/A	N/A

**Note 1.** The **Summer Success Academy Comparison Group** consisted of 78 First-Time, Full-time students who met the following criteria: were not conditionally admitted, did not participate in the SSA program, had High School GPAs < 2.83 and SAT Scores < 1100, placed into remedial or developmental math, were not International students, and were not over the age of 22.

**Note 2.** Bolded items are significantly different based on independent samples t-test or chi-square test results and practical significance.

## 2011 and 2012 Summer Success Academy Participants' Performance in Math Courses

**Table 7. 2011 Summer Success Academy Participants' Performance in Fall 2011 Math Courses**

Fall 2011 Math		Course Grade							
Course Taken	Total Students	W	D	F	C	B	A	No Grade	DFW Rate
None	69							67	
Math 00100	131	3	23	22	32	44	7	0	37%
Math 11000	26	3	3	5	8	5	2	0	42%
Math 11100	30	1	1	2	11	10	5	0	13%
Math 15900	1	1	0	0	0	0	0	0	100%
Math -M 119	1	1	0	0	0	0	0	0	100%
<b>Total</b>	<b>258</b>	<b>9</b>	<b>27</b>	<b>29</b>	<b>51</b>	<b>59</b>	<b>14</b>	<b>67</b>	<b>34%</b>

*Note: Includes all full-time and part-time summer success academy students who were enrolled at census of fall 2011. There were a total of 258 participants who enrolled at IUPUI for fall 2012. Students dropping a math course before a grade of 'W' was assigned are counted as not taking a math course.*

**Table 8. 2011 Summer Success Academy Participants' Performance in Spring 2012 Math Courses**

Spring 2012 Math		Course Grade							
Course Taken	Total Students	W	D	F	C	B	A	No Grade	DFW Rate
None	94							94	
Math 00100	38	3	9	14	9	3	0	0	68%
Math-M 100 (IUNWA)	1	0	0	1	0	0	0	0	100%
Math 11000	41	6	2	8	9	13	3	0	39%
Math 11100	44	4	8	14	14	4	0	0	59%
Math 13600	1	0	0	0	0	0	1	0	0%
Math 15300	16	2	1	4	6	2	1	0	44%
Math 15900	4	1	2	0	1	0	0	0	75%
Math-M 118	12	5	1	3	2	1	0	0	75%
Math-M 119	7	0	1	2	1	2	1	0	43%
<b>Total</b>	<b>258</b>	<b>21</b>	<b>24</b>	<b>46</b>	<b>42</b>	<b>25</b>	<b>6</b>	<b>94</b>	<b>55%</b>

*Note: Includes all full-time and part-time summer success academy students that were enrolled at census of fall 2011. There were a total of 258 participants who enrolled at IUPUI for fall 2012. Students dropping a math course before a grade of 'W' was assigned are counted as not taking a math course.*

**Table 9. 2012 Summer Success Academy Participants' Performance in Fall 2012 Math Courses**

Fall 2011 Math Course Taken	Total Students	Course Grade							DFW Rate
		W	D	F	C	B	A	No Grade	
None	25	0	0	0	0	0	0	25	0%
Math 00100	66	2	10	7	20	18	9	0	29%
Math 11000	3	0	0	1	0	0	2	0	33%
Math 11100	17	2	0	6	5	3	1	0	47%
Math 15300	1	0	0	0	1	0	0	0	0%
Total	112	4	10	14	26	21	12	25	25%

*Note: Includes all full-time and part-time summer success academy students who were enrolled at census of fall 2012. There were a total of 112 participants who enrolled at IUPUI for fall 2012. Students dropping a course before a grade of 'W' was assigned are counted as not taking a math course.*

**Characteristics and Fall Academic Success Outcomes for 2012 Student Groups Considered “Moderate Risk” and Planned to be Admitted in 2013 Aligned with Proposed Admission Criteria (Consideration for “Special Programming” and/or SSA in 2013)**

**Table 10. Fall 2012 First-Time, Full-Time Students “Moderate Risk Groups”: 1) HS GPAs 2.80-2.89 and SAT Scores 800-999 and 2) HS GPA 2.70-2.79 and SAT Scores 1000-1199. Combined Groups N=132.**

Variable	N	Mean or %	Std. Deviation (Means only)
Avg. High School GPA	132	2.82	.05
Avg. SAT Score	132	957.88	93.09
% HS Honors Diploma	132	14%	
% Placed into Remedial Math	121	93%	
% African American	130	12%	
% Latino Student	132	13%	
% Female	132	54%	
Avg. Age	132	18.81	.66
% First Generation	132	39%	
% Pell Grant Recipients	132	44%	
Fall Cum GPA	125	2.22	1.11
Fall Cum GPA Below 2.0	125	32%	
Fall DFW Rate	132	33.31	38.90
% Retained Spring any IU campus	132	75%	
% Math Avg. Less Than 2.0	85	38%	
Fall DFW Rate for All Math courses	97	39%	
Average English Grade	66	2.49	1.36
% English Avg. Less Than 2.0	66	20%	
Fall DFW rate for English courses	75	19%	

**Table 11. Fall 2012 First-Time Students HS GPAs 2.70-2.79 and SAT Scores 900-1199 (proposed to be included in the SSA in 2013). N=84**

Variable	N	Mean or %	Std. Deviation (Means only)
Avg. High School GPA	84	2.75	.03
Avg. SAT Score	84	1024.64	69.41
% HS Honors Diploma	84	11%	
% Placed into Remedial Math	77	88%	
% African American	82	4%	
% Latino Student	84	11%	
% Female	84	38%	
Avg. Age	84	18.74	.42
% First Generation	84	35%	
% Pell Grant Recipients	84	38%	
Fall Cum GPA	80	2.08	1.18
Fall Cum GPA Below 2.0	80	39%	
Fall DFW Rate	84	38%	
% Retained Spring any IU campus	84	75%	
Average Fall Math Grade	63	1.83	1.40
% Math Avg. Less Than 2.0	63	44%	
Fall DFW Rate for All Math Courses	71	44%	
Average English Grade	43	2.40	1.30
% English Avg. Less Than 2.0	43	23%	
Fall DFW Rate for English Courses	50	26%	

## Academic Self-Efficacy, Social Integration, and Academic Integration: Pre-Post Questionnaire Results

The 2011 SSA participants reported significantly improved levels of Sense of Belongingness/Peer Connections, Math Self-Efficacy, and Written Communication Self-Efficacy based on pre-post paired sample t-test results (shown in Table 12). Please see items forming constructs in Appendix A.

**Table 12. Paired Samples T-Test Results for the 2011 SSA Questionnaire (Pre-Post)**

Factors	Number of Items	Reliability (Alpha)	Valid N	Mean (Pre)	Mean (Post)	Mean Diff.	P-Value
<b>Sense of Belongingness</b>	8	0.83	244	4.56	4.87	0.31	0.000
Group Work Self-Efficacy	5	0.80	237	5.07	5.05	0.02	0.804
Individual Academic Self-Efficacy	4	0.91	243	5.22	5.21	0.01	0.898
Institutional Commitment	9	0.86	232	4.67	4.60	0.07	0.377
<b>Math Self-Efficacy</b>	5	0.91	235	4.21	4.72	0.52	0.000
<b>Written Communication Self-Efficacy</b>	5	0.93	239	4.59	4.94	0.35	0.000

Note: Responses were based on a 5-Point Likert-Type scale ranging from 1=Strongly Disagree to 5= Strongly Agree

The 2012 SSA participants reported significantly improved levels of Sense of Belongingness and Math Self-Efficacy based on pre-post paired sample t-test results (shown in Table 13).

**Table 13. Paired Samples T-Test Results for the 2012 SSA Questionnaire (Pre-Post)**

Factors	Number of Items	Reliability (Alpha)	Valid N	Mean (Pre)	Mean (Post)	Mean Diff.	P-Value
<b>Sense of Belongingness</b>	8	0.88	90	4.48	4.77	0.29	0.020
Group Work Self-Efficacy	5	0.80	91	4.99	5.01	0.02	0.890
Individual Academic Self-Efficacy	4	0.94	97	5.24	5.17	0.08	0.586
Institutional Commitment	8	0.85	90	4.58	4.53	0.05	0.758
<b>Math Self-Efficacy</b>	5	0.92	91	4.41	4.78	0.37	0.000
Written Communication Self-Efficacy	5	0.94	90	4.77	5.01	0.24	0.107

Note: Responses were based on a 5-Point Likert-Type scale ranging from 1=Strongly Disagree to 5= Strongly Agree

## Qualitative Results: Understanding Students' Perceptions of the Program and Their Learning Experiences

All students' responses to the open-ended items were content analyzed and coded using the Atlas.ti qualitative software program. The most valuable aspects of the program were the math instruction, writing instruction, and transitional assistance. Students also reported that the program helped them become socially integrated as they met other students and formed friendships. Many students also reported that the math instruction was not valuable and was too easy and not challenging enough. In 2012, the majority of the students reported that the Student Life Component was the least valuable aspect of the program. This was a new component added in 2012. This section contains excerpts from 2011 and 2012 reports entitled: *Summer Success Academy Qualitative Report, 2012 [or 2011] Open-ended Responses, Assessment Results, University College Office of Research, Planning, & Evaluation, Indiana University Purdue University, Indianapolis (IUPUI)* found at <http://research.uc.iupui.edu/>

**Table 14. Most Valued Aspects of Summer Success Academy 2011 (n=226)**

### Writing / English Components

- "English portion".
- "The writing section of the SSA".
- "How to better develop my writing skills".
- "The writing sessions. I really needed help and I got it."
- "The writing course offered me a lot of new ways of writing effectively".
- "The writing class. It helped develop papers and my ideas".
- "Writing summaries".
- "It helped me write better summaries".
- "The articles and writing summaries at a college level was most valuable".

### College Transition Assistance

- "Got me in the school mode".
- "The transitions from high school to college".
- "Helped me know what is expected of me for college".
- "It's getting me back to the groove of things with school".
- "The responsibility and sense of college that was given".
- "The ability to transition from high school to college smoothly".
- "I feel like I understand the material needed to start college more fully".
- "That it was not like high school but not quite college it is a great transition".

### Mathematics Components

- "Math".
- "Math labs helped a lot".
- "I found the math program most valuable".
- "The math packets, quizzes, and tests".
- "Studying and practicing math problems".
- "Math class helped me get my math skills going again".
- "The math class, learning math in a better method than in high school".
- "The math course helped me greatly in remembering the basic math skills I had forgotten".

**Table 15. Least Valued Aspects of Summer Success Academy 2011 (n=211)**

**Mathematics Components**

- “The math class”.
- “The math lessons”.
- “Math course, wasn’t really feeling it”.
- “The math was a complete waste of time”.
- “Math class in general. It was too easy”.
- “Math lab”.
- “The math lab to me seemed unorganized!”.
- “The math lab. It wasn’t in sync with our actual math class”.
- “The rubber band golf”.
- “Rubber band golf activity in math”.
- “Rubber game golf data gathering “.
- “Online mymathtest.com”.
- “Least valuable online math tests!”.
- “The online test. I do not think they are very productive”.
- “Math mentors”.
- “Math lab mentors”.
- “Some math mentors act as if they didn’t want to help”

**N/A, None, Nothing**

- “N/A”.
- “None”.
- “Nothing”.
- “Nothing it was all valuable”.
- “There was nothing least valuable”.

**UCOL Course/Component**

- “UCOL”.
- “The UCOL class”.
- “UCOL was not very useful”.
- “The UCOL class just felt a little forced”.
- “UCOL did not seem to be a good way to use my time”.
- “UCOL. I felt like I was in 7th grade again learning about successful traits”.

**Table 16. Most Valued Aspects of Summer Success Academy 2012 (n=104)**

**Mathematics Components**

- “Math class”.
- “The math part taught me the most”.
- “Helped me brush up my math skills”.
- “Keeping up with basic math skills is always helpful”.
- “The math due to that being my worse course”
- “The math remediation. It really helped remember things”.
- “I found the math class most valuable because it really refreshed me on my math”.
- “I found that my math class was most valuable because it helped me regain my skills back”.
- “The math sessions of SSA did help me out. Writing and Math was the most valuable because it helped me remember things I forgot or completely didn’t understand”.

**Writing / English Components**

- “Writing”.
- “My writing class was the most valuable part”.
- “Writing showed what professors are looking for”.
- “Getting help with my writing class, it’s easier to write papers”.
- “I looked at and peer-edited work in an entirely different way”.
- “What I found most valuable was the writing peer groups. They actually helped out a lot”.
- “I found the writing course to be most helpful. The professor challenged us to think more critically as opposed to generically”.

**Meeting New People & Developing Friendships**

- “The friends I made”.
- “Meeting new people”.
- “Meeting other students”.
- “They introduced us to people”.
- “The friendships you make before the fall semester starts”.
- “The relationships I made and the intellectual challenges”.
- “The most valuable I found were the people at IUPUI, I made a lot new friends and friended some staff”.



**Table 17. Least Valued Aspects of Summer Success Academy 2012 (n=98)**

**Student Life Components (Activities That Did Not Improve Learning)**

- “The student life class was the least helpful”.
- “The student life class, it wasn’t horrible, just not useful”.
- “The Student life portion, because we never really did anything worthwhile”
- “I found the student life sessions to be counter-productive”.
- “The student life section because we were treated like 5 year olds”.
- “Student life was most ridiculous; I don’t understand how those/some of the activities will help us out in college”.
- “I found Student life to be the least valuable. I think if the University kept that component it should only be once a week”.
- “The student life class was the worst. I didn’t learn anything and they treat you like your 5. I hated it and I’m glad it’s over”.
- “Some outside activities”.
- “Playing all of the games and the college life class”.
- “The social life class had activities that were “childish”.”
- “Duck Duck Goose, aka Student Life”.
- “Some things were to kiddy for college students”.
- “The student life class, I’ll never forget they made us play duck, duck goose
- “Least valuable to me would be the skit warm up we did in the student development class, it just wasn’t me.”

**Mathematics Components**

- “Math”.
- “Math class”.
- “The math portion”.
- “Least valuable was the math course because I had learned all that prior”.
- “Some of the math was stuff I did in 7th or 8th grade. It was just too easy and there was no challenge”.
- “A lot of the math that we went through during the four weeks was very basic, almost elementary. I got very little out of it until closer to the end”.

**N/A, None, Nothing**

- “None”.
- “Nothing”.
- “There was nothing that was not valuable.”
- “I have no complaints about the SSA program.”
- “There was nothing that was not valuable.”

## Conclusions and Implications for Practice

- Results from quantitative analyses suggest that Summer Success Academy participants had notably higher retention rates and levels of academic performance compared to non-participating cohorts in previous years and/or comparison groups admitted during the same cohort years (2011 and 2012).
- It is recommended that IUPUI leadership and program administrators determine some *criterion referenced* or *absolute levels* of success for this group of at-risk students. For example, is a 65% or 70% retention rate for this group acceptable? Should it be lower given the risk factors or should it be higher given the investment of resources in programs like the SSA to ensure successful transitions for these at-risk students?
- Results suggest that students seem to react positively the SSA early interventions as they facilitate positive connections, interactions with peers, and equip them with skills necessary to effectively adjust to college. The program has consistently enhanced students' feelings of a sense of belonging and math self-efficacy beliefs.
- Although the academic integration, college readiness and skill building, and math and writing instruction are the critical aspects of the SSA program to ensure the success of first-year students, attention should be devoted to the social integration aspects. A focus on the social integration aspects of the SSA program is particularly important considering that SSA participants have reported that these aspects (e.g., *University College* and *Student Life Components*) are not useful. Additionally, students' levels of Commitment to IUPUI (e.g., pride in attending IUPUI, commitment to graduate from IUPUI, glad that they selected IUPUI) have not been significantly enhanced by the program. In fact, in some years students' Commitment scores have slightly decreased after SSA attendance. Enhancing students' levels of Commitment to graduate from IUPUI may be increasingly important as we admit and enroll students with higher academic profiles.
- The math instruction in the SSA program seems to have improved substantially over the years. The one area of concern expressed by students is that the math instruction was "too easy" and may not prepare them for rigorous college math courses. Although this is based on self-report information, many SSA students continue to perform poorly in their Fall semester math courses. There are innovations in math instruction that are being implemented on many college campuses. IUPUI math faculty members may consider implementing and assessing some initiatives in the SSA program that hold promise of improving mathematics performance such as *MyMathLab* and *MathWay* technology (provides instructors with a rich and flexible set of course materials, along with course-management tools that make it easy to deliver all or a portion of courses online). This technology serves to potentially allow more time for classroom interactions and active learning. Another promising mathematics technology is *XYZ Homework*. This tool provides online instructional tools for faculty and students and contains *MathTV.com* video lessons. There are even videos in Spanish! The tool also provides unlimited practice and instant feedback to students. These tools may for allow more math problem solving time-on-task and more interaction time with instructors while in the classroom.
- As proposed admissions criteria continues to focus on SAT scores, attention should be focused on how these policies affect access for students in our immediate surrounding communities. In his *Inside Higher Ed* piece published in November of 2010, Robert Sternberg stated that SAT Scores tend to "make sense as important (although not exclusive) bases of admission only if one believes that they measure relatively fixed traits that project the future potential of the applicant. If abilities are highly modifiable, in contrast, then such test scores assess potentials largely at certain intervals in time and one can look at the college or university as providing a 'zone of potential development' to help students use the ability levels they are at as starting points, not just as ending points." Ideally, programs like the SSA help students reach the outer limits of their abilities. The pressing issue is if the SSA has been effective *enough*, given the costs in operating the program, in helping students attain academic success after admission. It seems that the best case scenario is that we continue to provide access to higher education for at-risk students in Indiana and continuously employ data-based decision making in designing effective programs to ensure that these students attain academic success in the form of (high quality) degree completion.

## Conclusions and Implications for Practice (continued)

- IUPUI should continue to investigate ways to facilitate students' transitions to credit bearing math courses. In the report entitled "Core Principles for Transforming Remedial Education: A Joint Statement" found at [http://www.completecollege.org/docs/Remediation\\_Joint\\_Statement-Embargo.pdf](http://www.completecollege.org/docs/Remediation_Joint_Statement-Embargo.pdf), the authors state that "further, student outcomes cannot be improved at scale through incremental changes to existing courses, instructional practices, or policies that keep the current system of remedial education fundamentally unchanged. Lessons from emerging research and from the best innovators in the field point to the need for a new approach, one that enables unprepared students to receive academic and other supports they need to move quickly and effectively into and through a set of gateway courses aligned to programs of study that lead to a valued postsecondary credential." Research-based reports such as this have implications for improving the academic success levels and persistence rates of IUPUI students, particularly students from underrepresented minority groups, low-income students, and students placing in developmental math and English courses. Research has shown that a host of complex factors affect a student's performance in college-level math, including previous math courses, family income, first-generation status, and the particular high school that was attended (Hagedorn, L.S., Saidat, M.V, Fogel, S.F, Nora, A., and Pascarella, E.T, 1999). With this in mind, improving performance often involves multifaceted approaches that provide financial, academic, and social support.
- Recent research also indicates that there is a high level of heterogeneity of skill deficits among students in developmental courses, including students who need only a "refresher" in the subject matter, students who performed poorly on the placement test despite adequate competency in the subject matter, students who have learning disabilities, students who have mental health problems, students who are not native speakers of English, and others (Grubb, 2010, pp. 18–19 as cited in Bahr, 2012). Research also suggests that students who place into remedial math (e.g., low income, first generation, underrepresented students) may be at high risk of attrition from any sequence of coursework. Bahr (2012) notes that "some portion of the nonspecific attrition from the remedial sequence may be a consequence of the concentration of high-risk students in these courses and not a function of the remedial sequence itself" (p. 688). With this in mind, it seems that improving performance in developmental courses and overall academic success necessitates a multifaceted approach which may involve modifications in the sequence of courses along with increased academic and social support for these at-risk students.

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## Appendix A: Pre-Post Questionnaire Scales

### **Sense of Belonging/Connections with Peers (8-item Scale, $\alpha = .88$ )**

1. I feel that I can share personal concerns with other students.
2. I am able to develop close friendships with other students.
3. I am able to make connections with a diverse group of people.
4. I feel so distant from the other students. R
5. I have no sense of togetherness with my peers. R
6. I can relate to my fellow classmates.
7. I have some close friendships with IUPUI students. I feel that I fit right in at IUPUI.

### **Group Work Self-Efficacy (5-Item Scale, $\alpha = .80$ )**

1. I am comfortable working in groups.
2. I don't feel I can successfully participate with anyone or any group. R
3. I am confident that I can work effectively in groups.
4. I am certain that I can accomplish group projects.
5. I am not sure if I can get along with other students when working on group projects. R

### **Academic Self-Efficacy (4-item Scale, $\alpha = .94$ )**

1. I am confident that I will excel in college.
2. I can meet the demands of college
3. I am confident I can maintain a B average in college.
4. I will excel in my chosen a major.

### **Organizational Commitment/Pride in Attending IUPUI (8-item Scale; $\alpha = .85$ )**

1. It is important for me to graduate from IUPUI (e.g., rather than from another college).
2. I am certain I made the right choice in my attempt to attend IUPUI.
3. I intend to transfer to another institution at some point. R
4. I talk up this college to my friends as a great place to go to school.
5. I am proud to tell others I will be going to school here.
6. I could just as well be attending a different college as long as the courses were similar. R
7. I am extremely glad that I chose IUPUI over other colleges.
8. I intend to complete my degree at IUPUI.

### **Math Self-Efficacy (5-item Scale; $\alpha = .92$ )**

1. I will be able to complete college math courses with a B or better.
2. I feel comfortable reading a math textbook.
3. I am able to study effectively for math tests.
4. I will do well on future math exams.
5. I know about campus resources available to help me with math.

### **English Self-Efficacy (5-item Scale; $\alpha = .94$ )**

1. I will be able to complete college English courses with a B or better.
2. I can write effectively for college courses.
3. I am able to prepare well written papers and reports.
4. I know about campus resources available to help me with writing.
5. I will succeed in college writing requirements.