

Major Highlights and Conclusions

- The population of students attending Summer Bridge were similar in 2015 and 2016. In both years, participants were more likely to be African-American or Latino/a. Students who participated in Summer Bridge were also more likely to be living in campus housing and registered earlier than nonparticipants.
- University College Beginners who participated in Summer Bridge had a significantly higher GPA after their first year and completed significantly more credit hours than Beginners who did not participate. Participants from University College also were more likely to be retained at the Indianapolis campus than non-participants.
- African American beginners, female beginners, and beginners who received a Pell grant and participated in Summer Bridge in Fall 2015 were more likely to return to the Indianapolis campus in Fall 2016 than similar students that did not participate. Latino/a beginners who participated in Fall 2015 also had a higher retention rate than non-participants.
- There were no significant differences in average math grade between Bridge participants and non-participants in either Fall 2015 or Fall 2016.
- In Fall 2016, Bridge participants were more likely to be African American, Latino/a, a 21st Century Scholar, or on a Pell grant than beginners who did not participate. Once again participants had a higher mean GPA and were more likely to be retained than non-participants.

The purpose of this report is to provide a comprehensive investigation of students attending IUPUI Summer Bridge during the Fall 2015 and Fall 2016 semesters. Specifically, this report examines differences in demographic and academic characteristics of participants as well as differences in outcomes based on a wide variety of factors. Some of the highlights are below. Caution should be taken as these results do not account for the effects of self-selection.

- Students admitted to University College appear to have received greater benefit from participating in Summer Bridge than for Dual/Direct admits. University College students who participated in Summer Bridge in 2015 had a slightly lower mean high school GPA and average SAT score than University College students who did not participate. However, University College students who participated in Bridge had a higher mean GPA in their first year and were more likely to be retained at the Indianapolis campus in the fall of 2016 than University College students who did not participate in Bridge.
- African-American Beginners who participated in Summer Bridge in Fall 2015 were significantly more likely to be retained at the Indianapolis campus in Fall 2015 than African-American Beginners who did not participate. Beginners who received a Pell grant were also significantly more likely to be retained if they participated in Summer Bridge. These findings have been fairly consistent over the past several years.
- In Fall 2015, Bridge participants performed slightly worse in their math courses than non-participants, but the difference was not statistically significant. A new math component was added in 2016 which was designed to highlight resources available in the Math Assistance Center (MAC). In Fall 2016, Bridge participants performed slightly better in their fall courses than non-participants, but again the difference was not statistically significant. Further exploration is needed to see if the revised math component may have impacted other behaviors, such as attendance at the Math Assistance Center.
- More than half of all students who participated in both Summer Bridge and a Themed Learning Community in Fall 2015 received a Pell Grant in their first semester. However, students who participated in both programs had a significantly higher GPA in their first year and were significantly more likely to be retained at the Indianapolis campus than students who did not participate in either program.
- A new joint venture between the Diversity Enrichment and Advancement Program (DEAP) and Summer Bridge provided 121 student with DEAP Summer Bridge Scholarships. Students who participated in this program had a higher mean GPA in the Fall 2016 and were more likely to be retained on any IU Campus than other African American, Latino/a, Native American, or students of two or more races. At least 89% of students in all four DEAP Bridge sections were retained at any IU campus in the Spring 2017 semester. These early results are encouraging as the staff and faculty prepare to expand the program into a full living learning community in Fall 2017.

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Demographic and Academic Characteristics of 2015 Summer Bridge Participants

About 40% of 2014 first-year students who participated in Summer Bridge and 42% of first-year student who did not participate were directly admitted to their program (Table 1). Regardless of whether they were directly admitted or not, Bridge participants were more likely to be enrolled in 15 or more credit hours, were more likely to be living in campus housing, and enrolled earlier. Among University College admits, there were several noteworthy demographic difference. Bridge participants were more likely to be female, more likely to be Latino, and more likely to be first generation. Among dual/direct admits, Bridge participants had a significantly lower average high school gpa and SAT score, but were also more likely to be African American.

Table 1
2015 Summer Bridge Cohort Characteristics^{1 2 3}

Attended Bridge	N	High School GPA	Best SAT	Hours attempted	15 or more Fall credits	Direct Admit	Female	African American	Latino (a)	Two or More Races	First Generation	Campus Housing ⁴	Days Enrolled Before Census
<i>Means</i>					<i>Percentages</i>								
Overall													
Bridge Participants	895	3.41	1025	15.2	73%	40%	62%	10%	10%	6%	40%	50%	62.6
Non-Bridge Participants	2,608	3.44	1052	14.4	57%	42%	56%	7%	7%	5%	32%	36%	54.2
All Students	3,503	3.43	1045	14.6	61%	42%	57%	7%	8%	6%	34%	40%	56.3
University College Admits													
Bridge Participants	535	3.33	975	15.0	72%	N/A	68%	11%	11%	7%	44%	47%	60.2
Non-Bridge Participants	1,505	3.33	986	14.5	55%	N/A	61%	9%	8%	6%	36%	33%	51.3
All UC Admits	2,040	3.33	983	14.6	60%	N/A	63%	10%	8%	7%	38%	37%	53.7
Dual/Direct Admits													
Bridge Participants	360	3.53	1098	15.3	74%	N/A	54%	8%	9%	3%	34%	54%	66.1
Non-Bridge Participants	1,103	3.59	1140	14.2	59%	N/A	49%	3%	6%	4%	26%	40%	58.1
All Dual/Direct Admits	1,463	3.58	1130	14.5	63%	N/A	50%	4%	7%	4%	28%	43%	60.1

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Missing cases excluded. Percentages rounded to the nearest whole.

³ Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

⁴ Campus Housing includes Park Place

Several indicators suggest that Summer Bridge participants were more likely to be from a low income background than non-participants. A significantly higher percentage of Bridge participants received 21st Century Scholar funds, perhaps because many Bridge sections are devoted to 21st Century Scholars. Among dual/direct admits Bridge participants had a slightly lower high school GPA and slightly lower SAT. However, this was not the case for students who were not directly admitted. Forty-nine percent of all Bridge participants received a Pell grant compared to 36% of beginners who did not participate in Bridge. However, students who participated in Bridge also had lower levels of unmet financial need compared to students who did not participate in Bridge, perhaps because of these additional funding sources.

Table 2
2015 Summer Bridge Finance and Financial Aid^{1 2 3}

Attended Bridge	N	21st Century Scholars	Received 21st Century Scholars Pledge Grant⁴	Pell	Received Pell Pledge Grant⁴	Received GAP Award⁴	Unmet Financial Need
			<i>Percentages</i>				<i>Means</i>
Overall							
Bridge Participants	895	44%	36%	49%	2%	2%	\$3,762
Non-Bridge Participants	2,608	18%	13%	36%	4%	5%	\$4,545
All Students	3,503	25%	18%	39%	3%	4%	\$4,343
University College Admits							
Bridge Participants	535	50%	41%	54%	2%	2%	\$3,973
Non-Bridge Participants	1,505	22%	15%	42%	3%	6%	\$5,187
All UC Admits	2,040	29%	22%	45%	3%	5%	\$4,872
Dual/Direct Admits							
Bridge Participants	360	36%	28%	43%	4%	1%	\$3,454
Non-Bridge Participants	1,103	14%	9%	28%	4%	3%	\$3,612
All Dual/Direct Admits	1,463	19%	14%	32%	4%	2%	\$3,571

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Missing cases excluded. Percentages rounded to the nearest whole.

³ Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

⁴ For more information on these awards, see Appendix A

There were interesting results between Bridge participants and non-participants on the Enterring Student Survey. Among University College admits, students who participated in Bridge were less likely to strongly agree or agree that they intended to transfer to another institution and had a higher mean Sense of Belonging. However, among dual/direct admit students, Bridge participants were significantly more likely to strongly agree or agree that they intended to transfer than students who did not participate in Bridge. Among dual/direct admits, Bridge participants were also more likely to indicate that they planned to work 20 or more hours per week.

Table 3
2015 Summer Bridge Entering Student Survey Results^{1 2 3}

Attended Bridge	N	Response Rate	I intend to transfer to another institution ⁴	Mean Sense of Belonging rating ⁵	Percentage working 20 or more hours a week	Percentage spending 5 or more hours caring for dependents
		Percentages		Mean	Percentages	
Overall						
Bridge Participants	895	74%	11%	5.61	10%	19%
Non-Bridge Participants	2,608	66%	12%	5.45	6%	17%
All Students	3,503	68%	12%	5.50	7%	18%
University College Admits						
Bridge Participants	535	73%	9%	5.66	9%	21%
Non-Bridge Participants	1,505	69%	15%	5.46	7%	18%
All UC Admits	2,040	70%	13%	5.51	8%	19%
Dual/Direct Admits						
Bridge Participants	360	74%	14%	5.52	12%	16%
Non-Bridge Participants	1,103	63%	8%	5.45	4%	16%
All Dual/Direct Admits	1,463	66%	10%	5.47	6%	16%

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Missing cases excluded. Percentages rounded to the nearest whole.

³ Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

⁴ Percent indicating they strongly agree or agree. Scale: 1= strongly disagree, 2= moderately disagree, 3= slightly disagree, 4= neither disagree nor agree, 5= slightly agree, 6= moderately agree, 7= strongly agree

⁵ For more information on the Sense of Belonging scale, see Appendix B.

Summer Bridge Outcomes

University College admits who participated in Summer Bridge performed much better academically than their counterparts who did not participate in Bridge. (Table 3). UC Admits who participated in Bridge had a higher GPA in both their first fall and had a higher cumulative GPA after their first year. They were also more likely to complete 30 credit hours during their first fall and spring semester, and were more likely to be retained on the Indianapolis campus after their first year. Summer Bridge participants who were directly admitted had about the same GPA as in both their first fall and after their first year as nonparticipants. However, Bridge participants who were directly admitted were more likely to earn 30 or more credits during their first fall and spring, and were more likely to be retained at the Indianapolis campus during Fall 2016.

Table 4
2015 Summer Bridge Cohort Outcomes^{1 2 3}

Attended Bridge	N	First Fall GPA	Fall GPA < 2.00	First Year Cumulative GPA	First Year GPA < 2.00	Total Credits Earned First Fall and Spring	Completed 30 Total Hours First Fall and Spring	Retained in Spring 2016 at Indianapolis campus	Retained in Fall 2016 at Indianapolis campus	Retained in Fall 2016 at any IU campus
		<i>Mean</i>	<i>Percentage</i>	<i>Mean</i>	<i>Percentage</i>	<i>Means</i>		<i>Percentages</i>		
Overall										
Bridge Participants	895	2.89	16%	2.81	18%	23.8	32%	91%	73%	78%
Non-Bridge Participants	2,608	2.80	21%	2.75	21%	22.8	25%	84%	68%	73%
All Students	3,503	2.82	20%	2.77	20%	23.0	26%	85%	69%	74%
University College Admits										
Bridge Participants	535	2.81	18%	2.71	21%	22.9	26%	89%	67%	73%
Non-Bridge Participants	1,505	2.64	25%	2.59	26%	21.8	18%	82%	62%	68%
All UC Admits	2,040	2.68	23%	2.62	24%	22.1	20%	84%	64%	69%
Dual/Direct Admits										
Bridge Participants	360	3.02	14%	2.96	14%	25.1	40%	93%	80%	84%
Non-Bridge Participants	1,103	3.02	15%	2.98	14%	24.0	34%	86%	75%	79%
All Dual/ Direct Admits	1,463	3.02	15%	2.97	14%	24.3	36%	88%	76%	81%

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Missing cases excluded. Percentages rounded to the nearest whole.

³ Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

Table 4 displays the results of Bridge participants and non-participants in Math courses during their first fall semester. In Fall 2015, there were no statistically significant differences between Bridge participants and non-participants in their Math courses. In fact, Bridge participants had a slightly but not significantly lower average math grade compared to non-participants. In Fall 2016, changes were made to the Math portion of Summer Bridge in order to better display the services available in the Math Assistance Center (MAC) and highlight availability of ALEKS practice modules.

Table 5
2015 Summer Bridge Math Outcomes^{1 2}

Attended Bridge	N ³	Average Math Grade	DFW Rate Math	Average Math Grade less than 2.0	Average Math Grade greater than 3.5
				<i>Percentages</i>	
Overall					
Bridge Participants	766	2.49	27%	27%	28%
Non-Bridge Participants	2,137	2.53	29%	26%	30%
All Students	2,903	2.52	28%	26%	29%

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

³ Math outcomes include only students enrolled in at least one Math course (N=2,903).

Table 5 (cont.)
2015 Summer Bridge Math Outcomes^{1 2}

Attended Bridge	N ³	Average Math Grade	DFW Rate Math	Average Math Grade less than 2.0	Average Math Grade greater than 3.5
<i>Percentages</i>					
University College Admits					
Bridge Participants	480	2.36	31%	30%	25%
Non-Bridge Participants	1,307	2.37	33%	29%	24%
All UC Admits	1,787	2.37	32%	29%	25%
Dual/Direct Admits					
Bridge Participants	286	2.70	20%	21%	32%
Non-Bridge Participants	830	2.77	23%	23%	39%
All Dual/ Direct Admits	1,116	2.75	22%	22%	37%

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

³ Math outcomes include only students enrolled in at least one Math course (N=2,903).

2015 Summer Bridge Outcomes by Various Student Groups

African-American students who participated in Summer Bridge were significantly more likely to be retained in Fall 2016, than African-American students who did not participate in Summer Bridge, both at the Indianapolis campus and within the IU system. In addition, 79% of Latino(a) students who participated in Bridge were retained in Indianapolis in the Fall 2016 semester compared to 68% of Latino(a) students who did not participate. Summer Bridge participants who received a Pell grant in their first year also earned a significantly higher GPA in their first year than non-participants who received a Pell grant. Likewise, 21st Century Pledge Grant recipients who attended Bridge had a significantly higher GPA in their first semester than recipients that did not participate, though there was not a significant difference in retention. (Table 6)

Table 6
2015 Summer Bridge Outcomes by Various Student Groups^{1 2 3}

	Summer Bridge Participants					Non-Participants				
	N	First-Year GPA	% First-Year GPA Below 2.0	Retained in Fall 2016 at Indianapolis campus	Retained in Fall 2016 at any IU campus	N	First-Year GPA	% First-Year GPA Below 2.0	Retained in Fall 2016 at Indianapolis campus	Retained in Fall 2016 at any IU campus
African American	89	2.39	28%	74%	76%	170	2.20	40%	52%	57%
Asian American	33	2.94	9%	88%	91%	109	2.98	15%	78%	85%
Latino(a)	91	2.63	22%	79%	82%	182	2.51	25%	68%	73%
Two or More Races	51	2.50	26%	65%	69%	142	2.50	28%	64%	69%
International	55	2.98	18%	75%	80%	48	2.75	13%	73%	73%

¹ Missing cases were excluded.

² International students defined by admissions processed by International Affairs Office

³ Bolded items are practically or statistically significantly different based on ANOVA results or chi-square test results ($p < .05$).

⁴ GAP grants were renamed O'Bannon Pledge in 2016

Table 6 (cont.)
2015 Summer Bridge Outcomes by Various Student Groups^{1 2 3}

	Summer Bridge Participants					Non-Participants				
	N	First-Year GPA	% First-Year GPA Below 2.0	Retained in Fall 2016 at Indianapolis campus	Retained in Fall 2016 at any IU campus	N	First-Year GPA	% First-Year GPA Below 2.0	Retained in Fall 2016 at Indianapolis campus	Retained in Fall 2016 at any IU campus
Female	553	2.92	15%	73%	78%	1,431	2.85	18%	67%	73%
First Generation	353	2.63	24%	67%	72%	807	2.58	27%	64%	68%
Pell Grant	439	2.66	23%	69%	74%	922	2.51	29%	62%	67%
Conditional Admit	30	2.46	27%	53%	63%	6	1.24	67%	33%	33%
Part-Time Students	10	2.37	33%	70%	70%	158	2.38	33%	47%	49%
21 st Century Pledge Grant	317	2.56	24%	67%	73%	322	2.37	31%	65%	69%
GAP Grant ⁴	16	2.58	31%	88%	50%	120	2.45	30%	85%	59%
Pell Pledge	22	3.08	9%	82%	91%	91	2.68	22%	67%	72%

¹ Missing cases were excluded.

² International students defined by admissions processed by International Affairs Office

³ Bolded items are practically or statistically significantly different based on ANOVA results or chi-square test results (p < . 05).

⁴ GAP grants were renamed O'Bannon Pledge in 2016

Summer Bridge Outcomes by Registration Date

In 2015, the majority (55%) of Summer Bridge participants registered for classes more than 65 days before census (early registrants). However, 63 domestic Summer Bridge participants registered less than 40 days before census (late registrants). Among late registrants, 65% of those that participated in Summer Bridge were retained in Indianapolis in Fall 2015, compared to 58% of late registrants that did not participate.

Table 7
2015 Summer Bridge Registration Date and One-Year Retention^{1 2}

Registration Date	Summer Bridge Participants		Non-Participants		Overall Beginners	
	N	Retained in Fall 2015 at Indianapolis campus	N	Retained in Fall 2015 at Indianapolis campus	N	Retained in Fall 2015 at Indianapolis campus
Early (66 days or more before census)	486	77%	1,007	77%	1,493	77%
Moderate (40-65 days before census)	291	66%	866	65%	1,157	65%
Late (39 days or less before census)	63	65%	717	58%	827	59%
Total	840	73%	2,559	68%	3,399	69%

¹ Bolded items are practically or statistically significantly different based on chi-square test results (p < . 05) for Summer Bridge participants compared to nonparticipants.

² International students were excluded from these analyses, as most register late.

Late registrants who participated in Bridge in 2015 had a significantly lower high school GPA than non-participants. They were also more likely to be a 21st Century Scholar and were more likely to be first generation. There were many more differences between 2016 late registrants who participated or did not participate in Bridge. In 2016, late registrants who participated also had a lower high school GPA than nonparticipants, and were also more likely to be African American, Latino(a), first generation, a 21st Century Scholar, or receiving a Pell grant. Bridge participants who registered late were also significantly more likely to be living in campus housing in the fall.

Table 8
Summer Bridge Cohort Characteristics – Late Registrants^{1 2 3}

Year	Attended Bridge	N	High School GPA	Best SAT	Hours attempted	Direct Admit	Female	African American	Latino (a)	Two or More Races	21st Century Scholar	First Generation	Pell received first fall	Campus Housing ⁴	Unmet financial First Fall Semester
			<i>Means</i>					<i>Percentages</i>							
2015	Bridge Participants	63	3.18	948	14.9	25%	60%	11%	14%	11%	49%	52%	52%	25%	\$3,815
	Non-Bridge Participants	686	3.35	1023	13.4	36%	52%	11%	11%	7%	26%	37%	46%	20%	\$5,817
	All Late Registrants	749	3.35	1018	13.5	34%	52%	11%	10%	6%	28%	38%	42%	20%	\$5,633
2016	Bridge Participants	131	3.29	953	15.1	32%	69%	31%	24%	2%	46%	43%	69%	42%	\$5,225
	Non-Bridge Participants	1,065	3.39	1023	14.2	42%	49%	9%	6%	6%	23%	31%	40%	29%	\$5,188
	All Students	1,196	3.38	1015	14.3	40%	51%	11%	8%	6%	26%	33%	43%	30%	\$5,192

¹ First-time Bachelor's-degree seeking beginning students who enrolled 39 days or less before the Fall 2015 census. Part-time students are included

² Missing cases excluded. Percentages rounded to the nearest whole.

³ Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

⁴ Campus Housing includes Park Place

⁵ International students were excluded from these analyses, as most register late.

Summer Bridge and Themed Learning Communities

Many Summer Bridge sections are linked to a Themed Learning Community (TLC). At IUPUI, TLC's are comprised of a first-year seminar and two or more disciplinary courses that a group of 25 freshmen co-enroll in. Throughout the semester the group explores a theme, makes integrative connections between courses, and engages in out-of-class experiences guided by the faculty team. Among Fall 2015 Beginners, students who participated in both Bridge and a TLC had a significantly higher cumulative GPA after their first year than students who did neither Bridge nor a TLC. Students who participated in both Bridge and a TLC were also significantly more likely to be retained at the Indianapolis campus after the first year than students who did not participate in either program. In fact, students who participated in both Bridge and a TLC were also more likely to be retained at the Indianapolis campus than students who only participated in one program (Table 9).

Table 9
One-Year Retention By Summer Bridge and TLC participation ^{1 2}

	N	First-Year GPA	Overall Beginners	
			% First-Year GPA Below 2.0	Retained in Fall 2015 at Indianapolis campus
No Bridge or TLC	2,017	2.73	22.1%	67%
TLC, no Bridge	590	2.82	15.8%	70%
Bridge, no TLC	649	2.76	20.7%	72%
Both Bridge and TLC	246	2.94	12.2%	75%
Total	3,502	2.77	20%	69%

¹ Statistically significantly difference based on chi-square test or Analysis of Variance results ($p < .05$).

In both Fall 2015 and Fall 2016, students who participated in both Summer Bridge and a TLC were significantly more likely to be female. Twenty-first Century Scholars were also more likely to either participate in Bridge only or to do both programs than they were to do just a TLC. In both Fall 2015 and Fall 2016, more than half of all students who participated in both Summer Bridge and a TLC received a Pell grant. However, 53% of students who participated in both programs in Fall 2015 and 65% of students who participated in both programs in Fall 2016 were also living in campus housing.

Table 10
Summer Bridge and TLC Cohort Characteristics^{1 2 3}

Year	Attended	N	High School GPA	Best SAT	Hours attempted	Direct Admit	Female	African American	Latino(a)	Two or More Races	21st Century Scholar	First Generation	Pell received first fall	Campus Housing ⁴	Unmet financial First Fall Semester	Days enrolled before census
			<i>Means</i>					<i>Percentages</i>					<i>Mean</i>			
2015	No Bridge or TLC	2,018	3.45	1055	14.2	42%	54%	7%	7%	5%	19%	32%	36%	34%	\$4,627	53.0
	TLC, no Bridge	590	3.42	1041	15.0	44%	60%	5%	8%	6%	17%	32%	37%	44%	\$4,277	58.2
	Bridge, no TLC	649	3.42	1033	15.1	41%	57%	10%	11%	6%	47%	41%	49%	49%	\$3,686	60.7
	Both	246	3.39	1005	15.3	37%	76%	9%	9%	4%	39%	37%	51%	53%	\$3,952	67.5
	All Students	3,503	3.43	1045	14.6	42%	57%	7%	8%	6%	25%	34%	39%	40%	\$4,343	56.3
2016	No Bridge or TLC	2,133	3.47	1057	14.5	46%	54%	7%	6%	5%	21%	29%	36%	41%	\$4,359	48.0
	TLC, no Bridge	601	3.45	1041	15.2	50%	60%	6%	6%	5%	23%	32%	35%	46%	\$4,208	49.9
	Bridge, no TLC	701	3.47	1032	15.2	48%	58%	20%	14%	6%	39%	32%	49%	62%	\$3,869	58.0
	Both	242	3.44	999	15.5	45%	76%	15%	19%	7%	39%	37%	55%	65%	\$3,743	60.8
	All Students	3,677	3.46	1046	14.8	47%	57%	10%	8%	5%	26%	30%	39%	47%	\$4,200	51.1

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Missing cases excluded. Percentages rounded to the nearest whole.

³ Bolded and italicized items significantly different based on chi-square test or Analysis of Variance results ($p < .05$).

⁴ Campus Housing includes Park Place

2015 Summer Bridge Outcomes by Bridge Section

Table 11 depicts the retention and First-Year cumulative GPA of students in each section who participated in each Summer Bridge section. More than 85% of Beginners who participated in the STEM, International Engineering, Psychology, and Health Professions Programs Bridge sections were retained in Indianapolis in the Fall 2016 semester. The mean first-year GPA in 13 different Bridge sections was higher than a 3.00. Caution should be used when interpreting these results because of low enrollment in some Bridge sections. For GPA and retention information Bridge participants by school, please refer to the Cohort Profiles report on IUPUI Data Link (<http://irds.iupui.edu/Institutional-and-Strategic-Planning/IUPUI-Data-Link>).

Table 11
Fall 2015 Summer Bridge Results by Bridge Section

Bridge Type	N	Direct Admit	First Generation	African American		Latino(a)	Pell received first fall	First Year Cumulative GPA	Retained in Fall 2016 at Indianapolis campus	Retained in Fall 2016 at any IU campus
				Percentages	Percentages					
Biology	29	76%	17%	3%	7%	31%	2.95	76%	76%	
Business	21	29%	38%	14%	5%	43%	3.15	81%	81%	
DEAP	25	24%	52%	64%	32%	64%	2.29	72%	72%	
Dental Hygiene(DHYG)	9	0%	67%	0%	22%	78%	2.57	78%	78%	
Education	24	54%	46%	0%	8%	29%	2.76	71%	83%	
Engineering	25	64%	36%	12%	0%	44%	2.66	80%	84%	
Exploratory	21	5%	43%	0%	5%	33%	3.07	71%	76%	
Exploring Health Careers	24	8%	42%	8%	4%	50%	3.25	67%	71%	
Health and Life Sciences Exploratory 1	24	0%	21%	4%	17%	25%	3.15	67%	75%	
Health and Life Sciences Exploratory 2	17	6%	29%	6%	6%	47%	3.16	59%	71%	
Health Professions Programs (HPP)	13	0%	46%	8%	23%	54%	3.03	92%	92%	
Herron	24	100%	42%	8%	13%	58%	3.24	83%	83%	
Informatics/HIA (IHIA)	18	83%	11%	0%	0%	28%	3.22	78%	100%	
International 1	21	10%	33%	0%	0%	0%	3.29	71%	81%	
International 2	16	31%	38%	0%	0%	0%	2.87	69%	75%	
International Engineering (IENG)	25	64%	24%	8%	12%	20%	2.49	88%	88%	
Liberal Arts1	25	48%	24%	4%	12%	32%	3.05	84%	84%	
Liberal Arts2	24	67%	42%	13%	4%	63%	2.66	63%	63%	
Media Arts and Sciences (MAS)	21	86%	52%	5%	10%	33%	2.97	76%	76%	
Money Matters (MONM)	14	0%	79%	43%	7%	100%	2.77	64%	79%	
PETM1	22	77%	23%	14%	5%	50%	2.84	73%	77%	
PETM2	24	79%	50%	8%	4%	58%	2.49	75%	75%	
PETM3	24	67%	29%	0%	0%	38%	2.96	79%	79%	
Psychology	23	43%	30%	13%	13%	52%	3.23	91%	91%	
Science	28	43%	43%	11%	11%	50%	2.83	68%	79%	
SPEA 1	21	48%	24%	5%	10%	38%	2.66	71%	71%	
SPEA 2	24	13%	33%	4%	8%	58%	2.24	58%	58%	
STEM 1	27	78%	30%	0%	4%	22%	3.21	89%	89%	
STEM 2	20	75%	50%	5%	10%	40%	3.30	85%	85%	
Technology	23	74%	30%	4%	26%	35%	2.60	83%	83%	

Table 11
Fall 2015 Summer Bridge Results by Bridge Section (cont.)

Bridge Type	N	Direct Admit	First Generation	African American	Latino(a)	Pell received first fall	First Year Cumulative GPA	Retained in Fall 2016 at Indianapolis campus	Retained in Fall 2016 at any IU campus
				<i>Percentages</i>			<i>Mean</i>	<i>Percentages</i>	
UCOL1	26	42%	50%	15%	15%	73%	2.63	77%	77%
UCOL2	24	4%	58%	21%	17%	83%	2.42	63%	71%
UCOL3	27	30%	56%	7%	15%	74%	2.35	59%	67%
UCOL4	23	22%	48%	22%	9%	83%	2.67	61%	61%
UCOL5	24	21%	54%	0%	17%	75%	2.82	58%	71%
UCOL6	24	0%	50%	13%	13%	75%	2.76	54%	75%
UCOL7	25	24%	60%	20%	8%	84%	2.43	72%	72%
UCOL8	23	26%	65%	9%	13%	83%	2.53	70%	70%
UCOL9	22	9%	41%	5%	18%	36%	2.80	59%	73%
UCOL10	21	5%	19%	19%	10%	48%	2.43	76%	86%
All	895	40%	40%	10%	10%	49%	2.81	73%	78%

Characteristics of 2016 Summer Bridge Participants

In 2016, Summer Bridge participants differed from other first-year student who did not participate in Summer Bridge in a number of important ways. (Table 13) Specifically, Summer Bridge participants were significantly more likely to be female, African American, or Latino(a). Summer Bridge participants also attempted slightly more credit hours and were slightly more likely to attempt at least 15 credit hours during the Fall 2016 semester. 2016 Summer Bridge participants also were more likely to be living in campus housing and registered earlier than non-participants. In fact, for the last three years, Bridge participants have been more likely to be enrolled in housing and registered earlier in the semester.

Table 13
2016 Summer Bridge Cohort Characteristics^{1 2 3}

Attended Bridge	N	High School GPA	Best SAT	Hours attempted	Attempted at least 15 credit hours	Direct Admit	Female	African American	Latino (a)	Two or More Races	First Generation	Campus Housing ⁴	Avg. Days Prior to Classes Register
			<i>Means</i>					<i>Percentages</i>					<i>Means</i>
Bridge Participants	943	3.46	1024	15.3	76%	47%	63%	18%	15%	6%	33%	63%	58.7
Non-Bridge Participants	2,734	3.46	1053	14.7	63%	47%	55%	7%	6%	5%	30%	42%	48.4
All Students	3,677	3.46	1046	14.8	66%	47%	57%	10%	8%	5%	30%	47%	51.1

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Missing cases excluded. Percentages rounded to the nearest whole.

³ Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

⁴ Campus Housing includes Park Place

Students who participated in Bridge were significantly more likely have earned a Pell Grant or be enrolled in the 21st Century Scholars program. Likewise, Bridge participants were also more likely to have received the institutional 21st Century Scholars Pledge grant. Although Bridge participants had lower levels of unmet financial need, they were however more likely to report working more than 20 hours per week off-campus than non-participants.

Table 14
2016 Summer Bridge Finance and Financial Aid^{1 2 3}

Attended Bridge	N	21 st Century Scholars	Received 21 st Century Scholars		Received Pell Pledge Grant ⁴	Received GAP Award ⁴	Unmet Financial Need
			Pledge Grant ⁴	Pell			
			<i>Percentages</i>				<i>Means</i>
Bridge Participants	943	39%	30%	50%	1%	7%	\$3,835
Non-Bridge Participants	2,734	21%	13%	36%	1%	8%	\$4,326
All Students	3,677	26%	17%	39%	1%	8%	\$4,200

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Missing cases excluded. Percentages rounded to the nearest whole.

³ Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

⁴ For more information on these awards, please see appenmdix A.

Table 15
2016 Summer Bridge Entering Student Survey Results^{1 2 3}

Attended Bridge	N	Response Rate	Percentage working 20 or more hours a week	Percentage spending 5 or more hours caring for dependents
Bridge Participants	943	48%	25%	35%
Non-Bridge Participants	2,719	43%	15%	36%
All Students	3,677	45%	17%	35%

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Missing cases excluded. Percentages rounded to the nearest whole.

³ Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

Once again, Fall 2016 Beginners who participated in Summer Bridge had a higher mean GPA than first year students who did not participate. Bridge participants were also significantly more likely than non participants to be retained in the Spring 2017 semester.

Table 16
2016 Summer Bridge Cohort Outcomes^{1 2 3}

Attended Bridge	N	First Fall GPA	Fall GPA < 2.00	Retained in Spring 2016 at Indianapolis campus
		<i>Mean</i>	<i>Percentage</i>	<i>Percentages</i>
Bridge Participants	943	2.85	17%	90%
Non-Bridge Participants	2,734	2.75	21%	84%
All Students	3,677	2.78	20%	86%

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Missing cases excluded. Percentages rounded to the nearest whole.

³ Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

In 2016, a revised Math component was added to Summer Bridge, which was designed to better prepare students for their math course and familiarize students with resources in the Math Assistance Center (MAC). The table below displays results of Bridge students and non-Bridge participants in the Fall Math course. Bridge participants performed slightly better in their fall 2016 math courses compared to their counterparts who did not participate in Bridge. However, the difference was not statistically significant. Focus groups conducted with Summer Bridge participants suggested that students saw some benefit from learning more about the services offered in the Math Assistance Center. However, they did not feel better prepared for their math courses, and did not like the focus on ALEKs modules in particular. Taken together, there's little evidence at this point that the adjusted math component had much of an effect on Math performance.

Table 16
2016 Summer Bridge Math Outcomes^{1,2}

Attended Bridge	N³	Average Math Grade	DFW Rate Math	Average Math Grade less than 2.0	Average Math Grade greater than 3.5
<i>Percentages</i>					
Overall					
Bridge Participants	784	2.52	28%	26%	30%
Non-Bridge Participants	2,263	2.51	30%	26%	31%
All Students	3,147			26%	
University College Admits					
Bridge Participants	439	2.33	33%	32%	25%
Non-Bridge Participants	1,260	2.31	34%	31%	25%
All UC Admits	1,699	2.32	33%	31%	25%
Dual/Direct Admits					
Bridge Participants	345	2.77	22%	19%	37%
Non-Bridge Participants	1,003	2.74	25%	20%	38%
All Dual/ Direct Admits	1,348	2.75	24%	20%	37%

¹ First-time Bachelor's-degree seeking beginning students. Part-time students are included

² Bolded and italicized items significantly different based on chi-square test or independent samples t-test results ($p < .05$).

³ Math outcomes include only students enrolled in at least one Math course (N=3,147).

In 2016, a joint venture between Summer Bridge and the DEAP program provided DEAP Summer Bridge Scholarships to 121 African American, Latino(a), Native American, and students of two or more races. The program will evolve into a DEAP Learning Community during the Fall 2017 semester. Early results suggest that students who received the DEAP Summer Bridge Scholarship had a higher mean GPA in their first fall semester and were also more likely to be retained on any IU campus in the Spring. Scholarship recipients performed even better than similar students who also participated in Bridge. This group will continue to be monitored and their progress assessed during the coming year.

Table 18
Fall 2016 DEAP Bridge Participant Characteristics¹²

Bridge Type	N	Direct Admit	First Generation	African American	Latino/a	Pell received first fall	Fall GPA	Retained Spring ay IU Campus
				<i>Percentages</i>				
DEAP Bridge participants	121	40%	43%	48%	43%	63%	2.70	90%
Other Underrepresented Bridge participants ¹	268	37%	43%	46%	36%	78%	2.57	87%
Underrepresented non participants ¹	482	35%	39%	38%	33%	59%	2.43	82%
All	871	36%	41%	42%	35%	65%	2.51	85%

¹ Underrepresented students include African American, Latino, Native American/Alaska Native, and Two or More Race students.

² Bolded and italicized items significantly different based on chi-square test or Analysis of Variance (ANOVA) results ($p < .05$).

Table 19 presents demographic characteristics as well as Fall 2016 GPA and Fall-Spring retention data by section. In all four DEAP sections, at least 89% of participants were retained at any IU campus in the Spring semester. Four sections (Helath Professions Programs, Informatics/HIA, Science 1, and Business 2) had a mean Fall GPA greater than 3.30. Five other sections (UCOL7, International 2, Dental Hygeine, and Science 2) had a 100% Fall-Spring retention rate.

Table 19
Fall 2016 Summer Bridge Characteristics by Bridge Section

Bridge Type	N	Direct Admit	First Generation	African American	Latino/a	Pell received first fall	Fall GPA	Retained Spring ay IU Campus
				<i>Percentages</i>				
Biology	28	46%	39%	29%	11%	39%	2.73	89%
Business 1	24	8%	29%	17%	17%	63%	2.84	83%
Business 2	21	62%	5%	5%	5%	14%	3.35	90%
DEAP 1	25	16%	52%	60%	32%	80%	2.79	96%
DEAP 2	20	20%	50%	40%	50%	85%	2.71	90%
DEAP 3	22	36%	36%	59%	27%	73%	2.57	91%
DEAP 4	19	26%	42%	68%	11%	84%	2.74	89%
Dental Hygiene	8	0%	38%	13%	0%	50%	2.98	100%
Education	24	63%	29%	29%	8%	58%	2.92	96%
Engineering	22	77%	18%	14%	5%	23%	2.76	86%
Exploratory	16	13%	19%	25%	31%	56%	3.03	94%
Exploring Health Professions	22	5%	41%	23%	18%	50%	3.05	82%
Health and Rehabilitation Science	26	81%	23%	15%	4%	58%	3.12	92%
Health Professions Programs	17	12%	41%	18%	24%	59%	3.46	94%
Herron	19	100%	68%	5%	37%	63%	2.89	84%
Informatics/HIA	23	100%	17%	0%	17%	22%	3.42	96%
Innovation and Entrepreneurship (?INEN)	23	9%	39%	9%	9%	61%	2.82	87%
International 1	15	7%	33%	0%	0%	0%	3.12	93%
International 2	14	14%	14%	0%	0%	0%	3.22	100%
International Engineering	26	88%	23%	4%	4%	23%	2.96	96%

**Table 19 (cont.)
Fall 2016 Summer Bridge Characteristics by Bridge Section**

Bridge Type	N	Direct Admit	First Generation	African American	Latino/a	Pell received first fall	Fall GPA	Retained Spring at IU Campus
		<i>Percentages</i>						
Liberal Arts 1	24	58%	33%	13%	17%	50%	2.86	96%
Liberal Arts 2	22	59%	32%	18%	0%	41%	2.91	91%
Media Arts and Sciences (MAS)	22	100%	18%	0%	9%	27%	3.10	95%
PETM 1	22	77%	32%	14%	27%	55%	2.91	86%
PETM 2	22	64%	32%	9%	9%	41%	2.99	91%
PETM 3	24	54%	38%	17%	4%	38%	2.71	92%
Psychology	24	54%	46%	17%	13%	58%	3.00	96%
Science 1	24	67%	29%	17%	4%	33%	3.40	92%
Science 2	23	74%	22%	9%	13%	52%	2.71	100%
SPEA 1	25	64%	36%	12%	16%	56%	2.69	88%
SPEA 2	23	70%	30%	4%	35%	57%	2.32	83%
STEM 1	23	74%	22%	0%	4%	22%	2.96	96%
STEM 2	25	84%	8%	12%	12%	36%	2.90	92%
Student Support Services	15	0%	67%	53%	27%	100%	2.13	87%
Technology	24	88%	33%	8%	25%	50%	3.15	96%
UCOL1	25	4%	44%	28%	20%	84%	2.65	96%
UCOL2	22	18%	50%	50%	27%	91%	2.17	82%
UCOL3	21	24%	33%	19%	29%	67%	2.54	62%
UCOL4	20	35%	50%	5%	30%	70%	2.35	80%
UCOL5	18	11%	50%	22%	11%	56%	2.44	78%
UCOL6	15	33%	13%	7%	7%	20%	2.57	80%
UCOL7	17	47%	12%	6%	6%	18%	3.23	100%
UCOL8	16	0%	25%	13%	6%	56%	2.01	75%
UCOL9	23	9%	39%	9%	22%	48%	3.00	83%
All	933	47%	33%	18%	16%	50%	2.85	90%

Conclusions

2015 first-time beginners who participated in Summer Bridge had a slightly lower average high school GPA and SAT scores as non-participants. Participants were also more likely to be 21st Century Scholars, receive a Pell Grant and were more likely to indicate that they were working 20 or more hours per week. However, University College students who participated in Summer Bridge performed slightly better academically in their first year than University College students who did not participate. Participants from University College were also significantly more likely to be retained in the fall than non-participants. While dual/direct admit students who participated in Fall 2015 did about the same academically as non-participants, those who participated in Bridge were more likely to be retained in Fall 2016. These results are similar to previous years, and once again highlight the importance of Summer Bridge for students admitted to University College as Beginners.

African-American students who participated in Summer Bridge in Fall 2015 were significantly more likely to be retained at the Indianapolis campus in the first year than non-participants. Latino(a) students who participated in Summer Bridge in Fall 2015 also had higher retention rate at the Indianapolis campus than Latino(a) Beginners who did not participate. Students who received a Pell Grant in their first semester and participated in Summer Bridge had a higher GPA in their first year and were more likely to be retained on the Indianapolis campus than Pell recipients who did not participate. Similar results have been found in previous semesters, which suggests that continued programming may be beneficial for these students. These findings are especially important now, as programming in Summer Bridge related to the DEAP program will be expanding in the next few years. Early results suggest that students who received a DEAP Bridge scholarship and participated in Bridge had a higher mean GPA and were more likely to be retained in the Fall than underrepresented minority students who did not participate in Bridge. This program should be monitored to ensure continued effectiveness.

Results suggest that participants in Summer Bridge in both Fall 2015 and Fall 2016 did about as well in their first Math courses as students who did not participate in Summer Bridge. Fall 2016 featured a revised Math component that was designed to steer students toward additional Math resources. The results suggest that more may need to be done to help students in Summer Bridge improve their performance in Math. Taken with the results of a series of focus groups conducted with Bridge participants about the math component, these results suggest that changes to the Math component, such as more involvement from Math instructors, may help students feel more confident about college level Math coming out of Summer Bridge. Additional analyses may also explore whether Summer Bridge students were more likely to visit the Math Assistance Center during the semester following Bridge.

More than half of Beginners who participated in both Summer Bridge and a Themed Learning Community in 2015 received a Pell Grant during their first Fall semester, and more than half were also living in campus housing. Students who participated in both Bridge and a Themed Learning Community in 2015 earned a higher GPA during their first year and were significantly more likely to be retained at the Indianapolis campus.

Among Fall 2015 beginners who registered late (less than 40 days before census), students who participated in Summer Bridge were retained at a higher rate than late registrants who did not participate in Summer Bridge. Late registrants who participated in Summer Bridge had a lower high school GPA and average SAT score than late registrants who did not participate, which hints that the effect of Summer Bridge may be stronger for students who register late in the semester. In Fall 2016, late registrants who participated in Summer Bridge were more likely to be African American, Latino(a), a 21st Century Scholar, First Generation, receiving a Pell Grant in their first semester, and living in campus housing than late registrants who did not participate.

It is important to note that these analyses do not account for the effects of self-selection. Students who enroll in Summer Bridge may be more likely to be retained because of factors not accounted for in these analyses. Nonetheless, the data presented do suggest that Summer Bridge may be an effective intervention that helps a number of different IUPUI students find success.

Appendix A

Eligibility for Pledge and GAP grants

Pledge grants are grants of up to \$2,000 awarded to low income students to help cover unmet need. Students who are 21st century Scholars are eligible to receive the 21st Century pledge, while GAP awards (now O'Bannon Pledge) were awarded to students who received the Frank O'Bannon state award, but were not 21st century Scholars. Pell Pledge was awarded to students who received a Pell grant but were not receiving another award. Students who received these awards were required to participate in Summer Bridge, a Themed Learning Community, or another academic mentoring program. For mor information, please see <http://www.iupui.edu/~finaid/services/grants/>

Appendix B

Sense of Belonging Scale

1. I feel a sense of belonging to IUPUI
2. I feel that I am a member of the IUPUI community
3. I feel that I fit right in on campus.
4. I feel connected with other IUPUI students
5. I see myself as part of the IUPUI community
6. It is important for me to graduate from IUPUI (e.g., rather than from another college)

Note: From the 2014 and 2015 Entering Student Survey (ESS). Respondents were asked to rate how much they agreed with each statement using the following scale 1=Strongly Disagree, 2 = Moderately Disagree, 3 = Slightly Disagree, 4 = Neither Disagree/Agree, 5 = Slightly Agree, 6 = Moderately Agree, 7 = Strongly Agree