

*Highlights and Conclusions*

- The number of 21st Century Scholar (TFCS) students enrolled at IUPUI Indianapolis has increased over the last six years (251 in 2010 and 741 in 2015).
- The one-year retention rate for the 2014 cohort of TFCS was 72% which represented a 6% improvement over the 2013 rate of 66%.
- Despite the lower academic preparedness and higher proportions of Federal Pell recipients and First Generation students among TFCSs, the TFCS students did not have significantly lower retention rates than All Others in 2014.
- The improvements in retention rates over time are most likely due to the increased proportion of TCFS scholars who have received IUPUI Grant aid, programming provided by the TFCSSP, coaching provided by Inside Track, and improved SAT scores.
- While TFCS students are majority white (58%), there are more underrepresented TFCS students compared to the general IUPUI population of beginners (African American 17% TFCS and 7% IUPUI overall).
- The most important reason TFCS students choose IUPUI is the availability of financial aid or scholarships.
- Compared to all other students, TFCSs are more likely to feel a high sense of belonging, plan to work on-campus, enroll in 15 or more credit hours, and have high *Grit* scores. TFCS students also have more external commitments such as taking care of dependents, commuting to campus, and taking care of household responsibilities and rate themselves lower with regard to physical health.

**CONTACT  
INFORMATION**

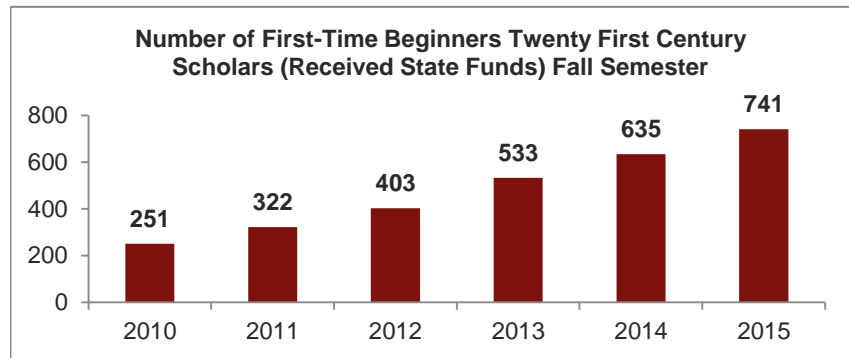
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The purpose of this investigation was to enhance understanding of 21<sup>st</sup> Century Scholar (TFCS) students’ characteristics, demographics, needs, expectations, commitments, academic success outcomes, and persistence rates. Additionally, there have been notable improvements in TFCS retention rates over the past five years and this research brief examines a variety of academic, social, and financial support factors that contributed to improved student success. This report focuses on TFCS First-Time Beginners who receive state aid and also on TFCS that receive additional IUPUI institutional aid and programming support.

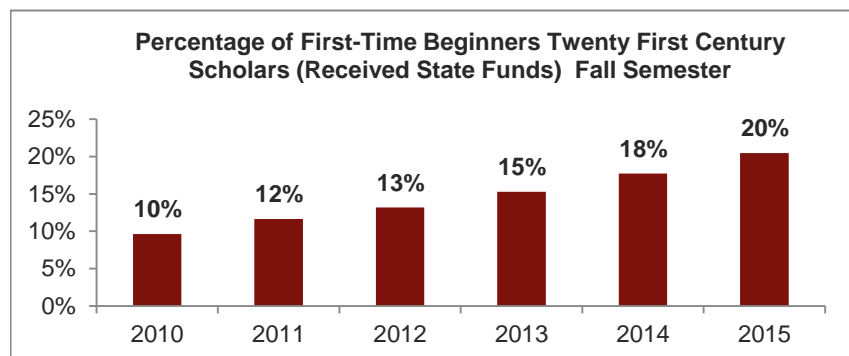
Indiana’s 21st Century Scholars Program offers income-eligible Hoosier students up to four years of paid tuition at an eligible Indiana college or university after they graduate from high school. In middle and high school, 21st Century Scholars are connected to programs and resources to help them plan, prepare, and pay for college. Once in college, Scholars receive support to complete their college degrees and connect to career opportunities. Scholars attending IUPUI have the opportunity to participate the 21st Century Scholars Success Program (TFCSSP). This program offers first-year peer mentoring, academic support, and workshops that focus on academic success, career development, and personal growth.

The number and percentage of IUPUI IN First-Time Beginners who are TFCS has been steadily increasing over the past six years. Shown in Figures 1 and 2 are the numbers and percentages of TFCSs who received state aid from 2010-2015. Please note that enrollment of TFCSs at IUPUI in future semesters may decline due to changes in eligibility requirements implemented by the State of Indiana.

**Figure 1. Number of IUPUI Indianapolis 21st Century Scholar First-Time Beginners**

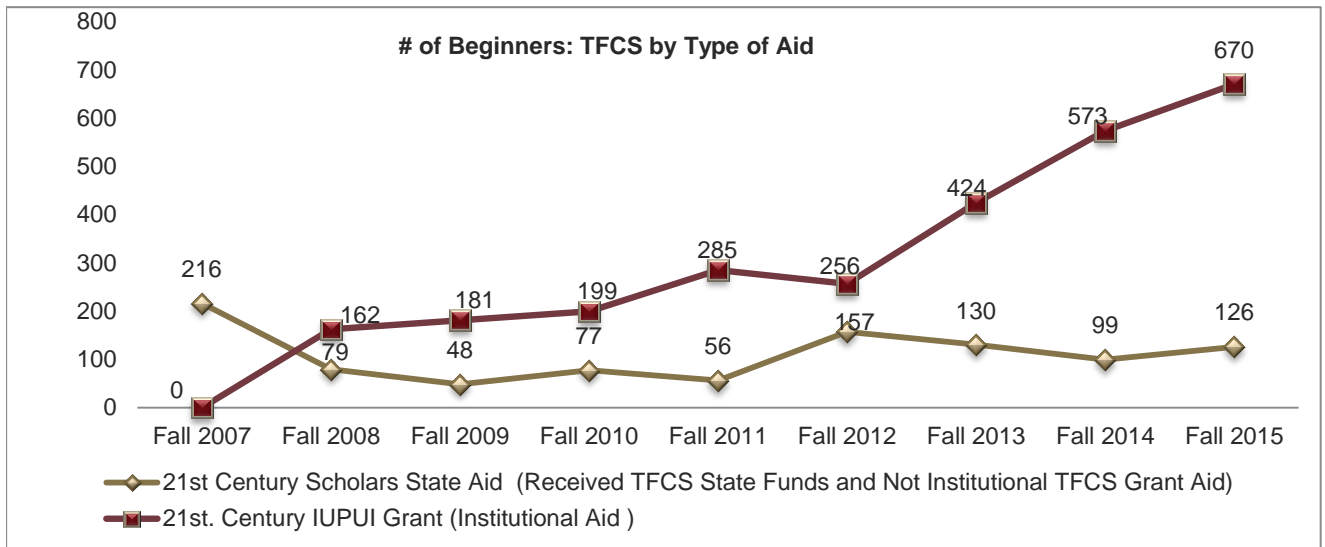


**Figure 2. Percentage of IUPUI Indianapolis 21st Century Scholar First-Time Beginners**



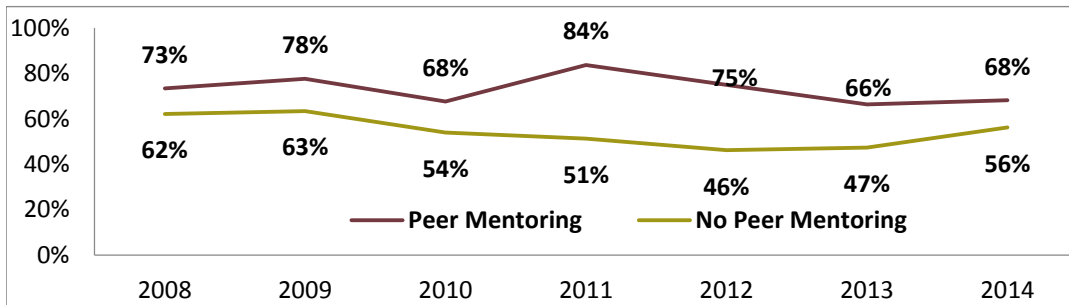
A total of 670 Indianapolis 21st Century Scholar First-Time Beginners received the IUPUI TFCS Grant in 2015. This was the largest number that has ever received the grant. This grant is designed to help meet the remaining financial need for 21st Century Scholars who enroll full time at IUPUI. To be eligible students must be participating and receiving 21st Century Scholarship funds from the state of Indiana and have a FAFSA on file by the priority deadline of March 10. The maximum annual IUPUI 21st Century Scholars Grant amount is \$2,000. Those students who meet eligibility are automatically given the award (for full details see <http://www.iupui.edu/~finaid/services/grants/twentyfirst/>) Grant recipients are expected to participate in programming and maintain a cumulative GPA of 2.5 to renew the annual award. Grant recipients who participate in TFCSSP peer mentoring programs and Summer Bridge have higher retention rates compared to students who do not participate.

**Figure 3. Number of IUPUI Indianapolis 21st Century Scholar First-Time Beginners by Type of Aid in Mutually Exclusive Categories**

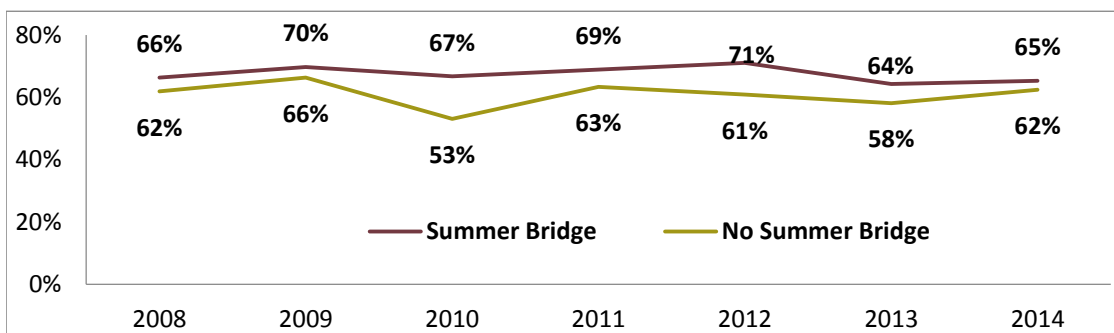


Note: There were some students who received the IUPUI TFCS Pledge Grant in the Fall who had been identified as receiving TFCS State funds yet. Therefore, the totals do not match those shown in Figure 1.

**Figure 4. One-Year Retention Rates for 21st Century Scholar First-Time Beginners Who Received Institutional TFCS Grant Aid and Programming (All Degrees Retained at IUPUI Indianapolis)**



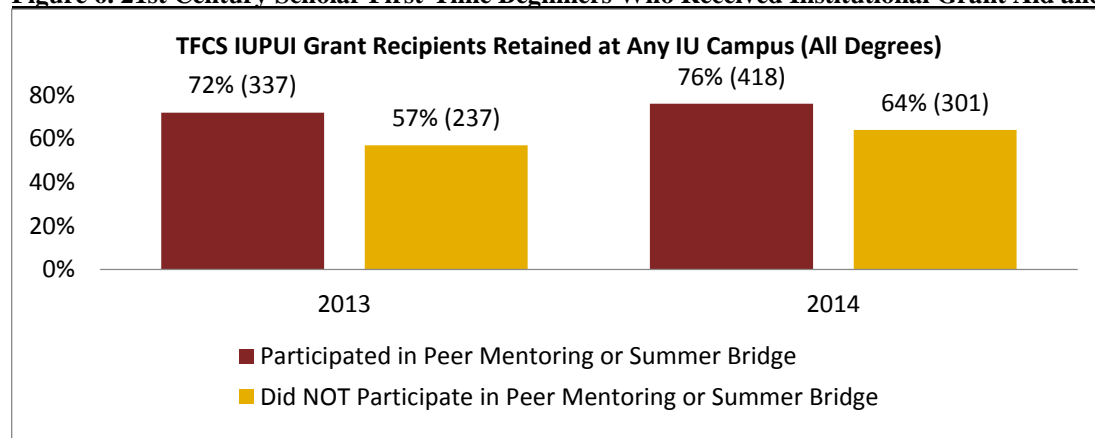
**Figure 5. One-Year Retention Rates for 21st Century Scholar First-Time Beginners Who Received Institutional TFCS Grant Aid and Programming (All Degrees Retained at IUPUI Indianapolis)**



21st Century Scholar First-Time Beginners who received the institutional IUPUI TFCS Grant and programming (Summer Bridge or Peer Mentoring) had significantly higher one-year retention rates compared to TFCS Grant recipients who did not participate in programming, even when taking into account high school grade point averages (HS GPAs), SAT scores, levels of unmet financial aid, and registration date (a proxy for motivation). Results are shown in Figure 6 and logistic regression results shown in Tables 1 and 2.

A noteworthy limitation of this investigation is that students self-select into peer mentoring or summer bridge and selection bias may have affected the internal validity of this study. It is communicated to students who receive the institutional grant money that they are expected to participate in programming. However, there are no consequences for not doing so. It is possible that the positive effects of TFCS programming on retention rates are due to the fact that students who decide to participate may have differed in substantial ways from students who decided not to participate. Although important variables were treated as covariates in the statistical models, it is difficult to adjust for all possible self-selection factors using traditional statistical techniques and when experimental designs using random assignment are not employed. Thus, the reader should be cautious when attempting to make causal inferences based on the information contained in this report.

**Figure 6. 21st Century Scholar First-Time Beginners Who Received Institutional Grant Aid and Programming**



**Table 1: Logistic Regression Results: 2014 IUPUI TFCS Grant Received in First Year and Programming: All Degrees Retained Any IU Campus)**

	B	S.E	Wald	Significance	Odd Ratio
Step 1					
HS GPA	1.54	.28	31.06	.000	4.66
SAT score	.00	.00	.05	.825	1.00
Unmet Financial Need AY	.00	.00	82.40	.000	1.00
Registration Date	.00	.00	1.01	.315	1.00
Step 2					
HS GPA	1.53	.28	30.42	.000	4.61
SAT score	.00	.00	.06	.805	1.00
Unmet Financial Need AY	.00	.00	82.32	.000	1.00
Registration Date	.00	.00	.00	.987	1.00
No Peer Mentoring or Bridge	-.57	.20	8.01	.005	.57

**Table 2: Logistic Regression Results: 2013 IUPUI TFCS Grant Received in First Year and Programming: All Degrees Retained Any IU Campus)**

	B	S.E	Wald	Significance	Odd Ratio
Step 1					
HS GPA	1.10	.30	13.60	.000	3.01
SAT score	.00	.00	.48	.490	1.00
Unmet Financial Need AY	.00	.00	61.23	.000	1.00
Registration Date	.01	.01	3.67	.055	1.01
Step 2					
HS GPA	1.09	.30	13.35	.000	2.99
SAT score	.00	.00	.78	.378	1.00
Unmet Financial Need AY	.00	.00	58.86	.000	1.00
Registration Date	.01	.01	1.45	.229	1.01
No Peer Mentoring or Bridge	-.51	.21	5.97	.015	.60

Compared to all other students, TFCSs have significantly lower HS GPAs and SAT scores, are more likely to be University College admits, are more likely to enroll in 15 credit hours, are more likely to be first generation college students, and are more likely to receive a Federal Pell Grant (proxy for low income). Tables 3 and 4 display some important differences between TFCSs and all other beginners.

**Table 3. 2014 21st Century Scholar First-Time Beginners Student Characteristics Compared to All Other Beginners IUPUI IN Received State Funds First Year (N= 721; 2863)**

	TFCS Mean or %	All Others Mean or %
High School GPA	<b>3.35</b>	<b>3.40</b>
SAT score	<b>971</b>	<b>1052</b>
Dual/Direct Admit	<b>27%</b>	<b>39%</b>
Course load in hours attempted	<b>15.18</b>	<b>14.44</b>
Attempted 15 or More Hours Fall Semester	<b>76%</b>	<b>57%</b>
Placed into Remedial Math	<b>47%</b>	<b>36%</b>
Campus Housing	36%	36%
Academic Honors Diploma	62%	59%
First Generation (neither parent attended college)	<b>54%</b>	<b>28%</b>
Female	<b>67%</b>	<b>56%</b>
Age	18.22	18.44
<b>2014 Financial Indicators</b>		
Federal Pell Grant First Year	<b>89%</b>	<b>31%</b>
Level of Unmet Financial Need First Year	<b>\$3,278</b>	<b>\$4,441</b>

Note: Bolded items are significantly different based on chi-square or independent t-test results ( $p < .05$ )

**Table 4. 2015 21st Century Scholar First-Time Beginners Student Characteristics Compared to All Other Beginners IUPUI IN Received State Funds First Fall (N= 741; 2881)**

	TFCS Mean or %	All Others Mean or %
High School GPA	<b>3.40</b>	<b>3.45</b>
SAT score	<b>975</b>	<b>1063</b>
Dual/Direct Admit	<b>32%</b>	<b>43%</b>
Course load in hours attempted	<b>15.22</b>	<b>14.41</b>
Attempted 15 or More Hours Fall Semester	<b>79%</b>	<b>57%</b>
Placed into Remedial Math	<b>39%</b>	<b>29%</b>
Campus Housing	<b>44%</b>	<b>39%</b>
Academic Honors Diploma	<b>74%</b>	<b>64%</b>
First Generation (neither parent attended college)	<b>54%</b>	<b>29%</b>
Female	<b>67%</b>	<b>56%</b>
Age	<b>18.16</b>	<b>18.35</b>
<b>2014 Financial Indicators</b>		
Federal Pell Grant First Fall Semester	<b>83%</b>	<b>28%</b>
Level of Unmet Financial Need First Fall Semester	<b>\$3, 126</b>	<b>\$4,729</b>

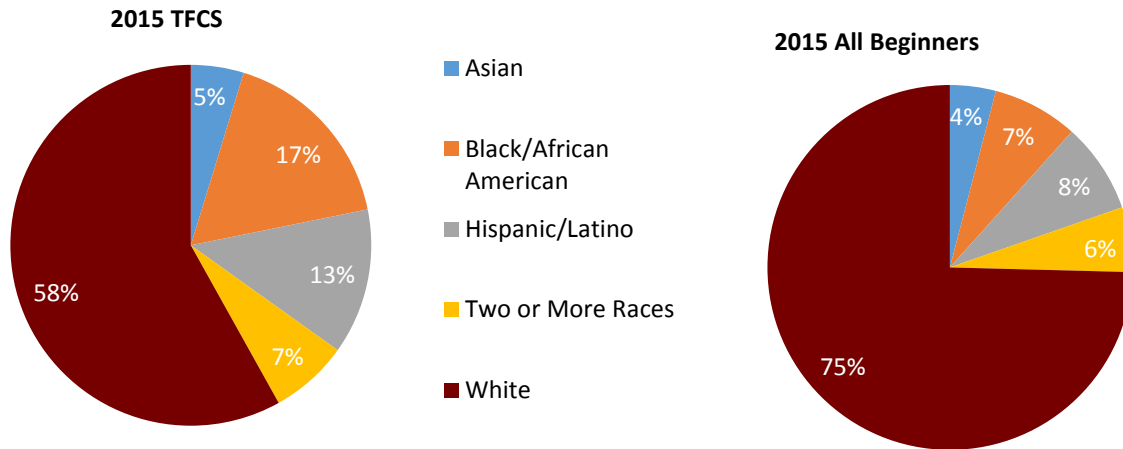
Bolded items are significantly different based on chi-square or independent t-test results ( $p < .05$ )

While TFCS students are majority white (58%), there are more underrepresented TFCS students compared to the general IUPUI population of beginners (African American 17% TFCS and 7% IUPUI overall). TFCSs are also more likely to be Latino(a)/Hispanic (results are shown in Figure 6).

Compared to all other first-time beginners, TFCSs have significantly higher sense of belonging scores, and are significantly more likely to plan to work on-campus, enroll in 15 or more credit hours, and have high *Grit* scores. TFCS also have more external commitments such as taking care of dependents, commuting to campus, and taking care of household responsibilities and rate themselves lower with regard to physical health Results are shown in Table 5.

**Figure 6: Percent Ethnicity of 2015 Beginning 21st Century Scholar First-Time Beginners**

Note: International students represent 4% of Beginners and 0% TFCS



**Table 5. Understanding 21st Century Scholar Beginners' Needs, Commitments, Expectations**

2015 21st Century Scholar Beginners were statistically significantly different than all other Beginners:

**Strengths**

- Higher Sense of Belonging to IUPUI
- More likely to plan to work on-campus for pay
- More time interacting with on-line social networks (Facebook, Myspace, Twitter, etc.)
- More likely to be very committed to their educational goals (Grit Item)
- More likely to think about how they are doing in their courses (Self-Regulation item)
- More likely to plan to seek tutoring or mentoring help in specific courses

**Potential Concerns**

- More external commitments (time spent commuting to class, providing care for dependents living with them, and taking care of household responsibilities)
- More likely to rate themselves low or below average on study skills
- More likely to rate themselves low or below average on physical health
- Less likely to be able to comprehend reading assignments during high school

Results are based on the 2015 Entering Student Survey (ESS) results. ESS is administered during New Student Orientation. Items reported as significantly different based on independent sample t-test results ( $p < .01$ ). A conservative alpha level was adopted based on the number of tests conducted and only items with medium to high effect size based on the magnitude of difference are reported above.

The number one reason why TFCS beginners choose IUPUI is the “availability of financial aid/scholarship.” This is the eighth most important reason among all other beginners (results are shown in Tables 6 and 7).

The top majors among University College TFCS beginners are Pre-Nursing, Exploratory, and Pre-Business. The top majors among Dual/Direct TFCS beginners are Exercise Science BSK, Biology BS, and Pre-Fine Arts-Herron. This may have implications for advising students (results shown in Table 8 below).

**Table 6. Top Ten Factors Affecting 21st Century Scholar Beginners’ Decision to Choose IUPUI**

1. Availability of financial aid/scholarship
2. Availability of specific academic programs (majors)
3. Institution's academic offerings such as courses, certification, and degrees
4. Career and job opportunities available in Indianapolis after I complete my degree
5. Job, career, and internship opportunities available in Indianapolis while attending school
6. Graduates get good jobs
7. Opportunity for an IU or Purdue Degree
8. Cost
9. IUPUI’s reputation
10. Social opportunities associated with IUPUI located in city of Indianapolis

Results are based on the 2015 Entering Student Survey (ESS) results. Rank ordered by mean response out of 21 items.

**Table 7. Top Ten Factors Affecting All Other Beginners’ Decision to Choose IUPUI**

1. Availability of specific academic programs (majors)
2. Graduates get good jobs
3. Institution's academic offerings such as courses, certification, and degrees
4. Career and job opportunities available in Indianapolis after I complete my degree
5. Opportunity for an IU or Purdue Degree
6. Job, career, and internship opportunities available in Indianapolis while attending school
7. Cost
8. Availability of financial aid/scholarship
9. IUPUI’s reputation
10. Social opportunities associated with IUPUI located in city of Indianapolis

Results are based on the 2015 Entering Student Survey (ESS) results. Rank ordered by mean response out of 21 items.

**Table 8. Top Ten Majors for 2015 21st Century Scholar Beginners**

**University College**

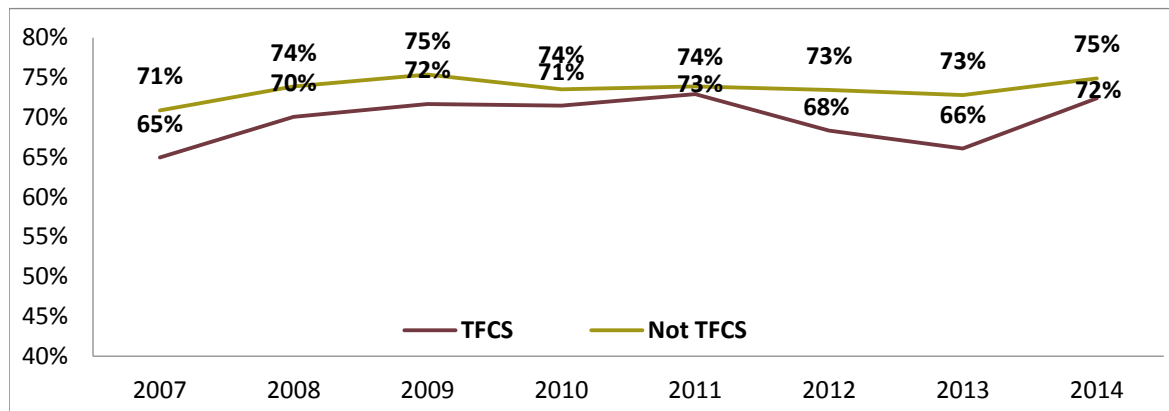
<b>Major/Plan Name</b>	<b>N</b>	<b>%</b>
Pre Nursing BSN	115	23%
Exploratory Baccalaureate	73	14%
Pre Business BSB	31	6%
Pre Biology BS PU	29	6%
Pre Forensic & Invg Sci BS PU	20	4%
Pre Psychology BA PU	16	3%
Pre Criminal Justice BS	15	3%
Pre Mechanical Engr BSME	13	3%
Pre Psychology BS PU	12	2%
Pre Dental Hygiene AS	11	2%

**Dual/Direct Admit**

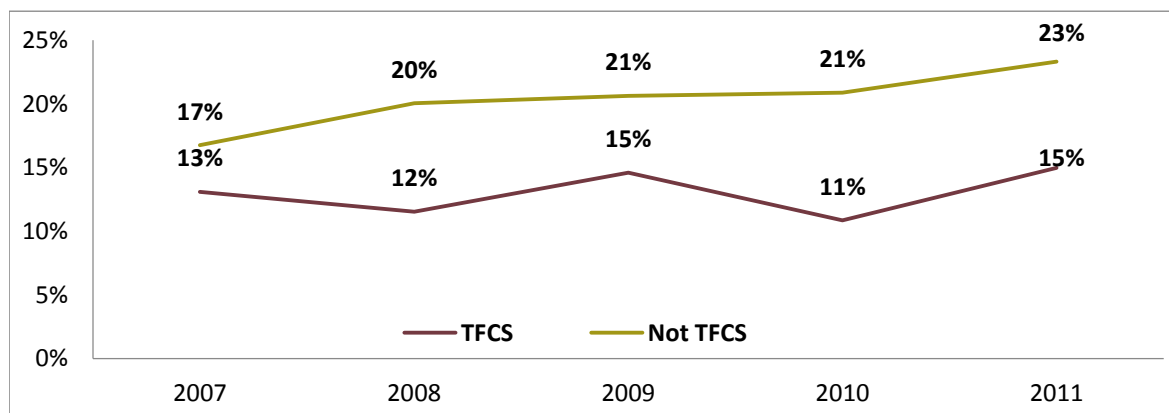
<b>Major/Plan Name</b>	<b>N</b>	<b>%</b>
Exercise Science BSK	21	9%
Biology BS	17	7%
Pre-Fine Arts-Herron	15	6%
Elementary Education BSED	11	5%
Health Sciences BS	10	4%
Comp Engr Tech Pu Fresh BS	8	3%
Comp Info Tech Pu Fresh BS	8	3%
For & Invest Sci BS PU	7	3%
Computer Science BS	6	3%

The one-year retention rate for the 2014 cohort of TFCSs was 72% which represented a 6% improvement over the 2013 rate of 66%. Additionally, the TFCS one-year retention rate was similar to the rate for All Other students even while TFCSs have lower levels of academic preparation are more likely to be first-generation and low-income college students compared to all other students (Not TFCS). The one-year retention rates for the 2007 – 2014 cohorts of TFCS students compared to all other beginners are shown in Figure 7. Figures 8 and 9 display the 4-year and 6-year graduation rates for the 2007 – 2011 cohorts of TFCS students compared to all other beginners. The graduation rates for TFCS are lower compared to all other beginners. It is noteworthy that the 2007-2011 TFCS cohorts included higher proportions of students who did not receive the IUPUI TFCS Grant or programming support.

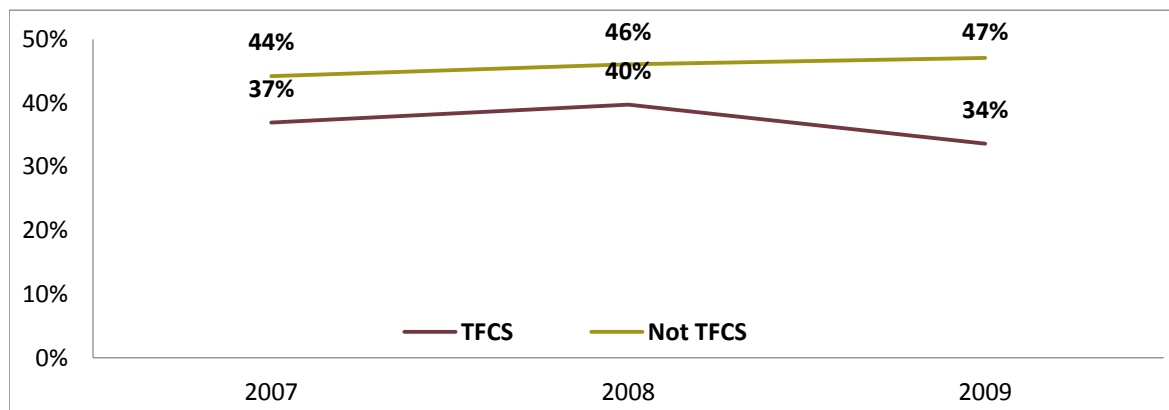
**Figure 7. One-Year Retention Rates 21st Century Scholar First-Time, Full-time Beginners Compared to All Other Beginners Retained at Any IU Campus All Degrees**



**Figure 8. Four-Year Graduation Rates 21st Century Scholar First-Time, Full-time Beginners Compared to All Other Beginners (Certificates, Associates, and Bachelor Degrees) Graduated Any IU Campus**

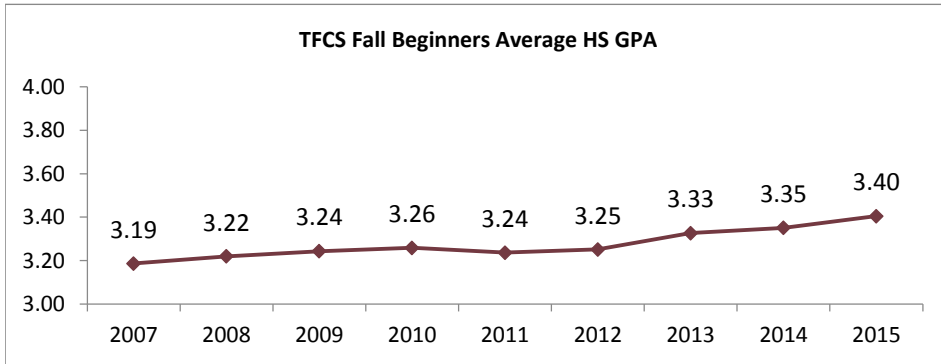


**Figure 9. Six-Year Graduation Rates 21st Century Scholar First-Time, Full-time Beginners Compared to All Other Beginners (Certificates, Associates, and Bachelor Degrees) Graduated Any IU Campus**

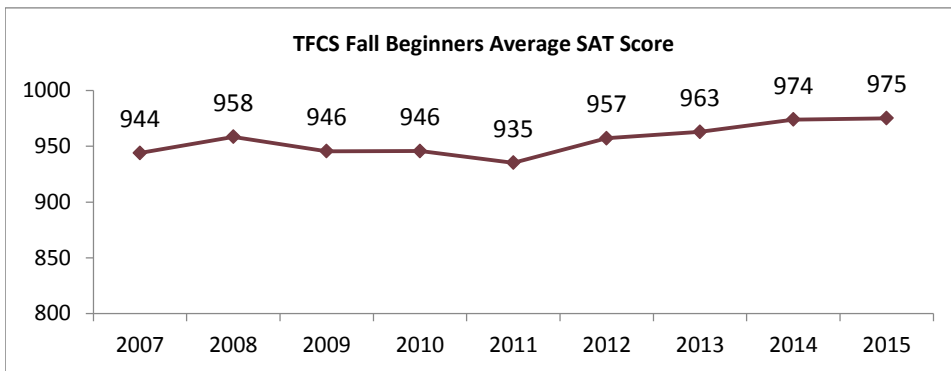


A number of factors were examined to determine what variables could be contributing to the improvements in one-year retention rates for TFCS students over time. More specifically, this investigation was conducted to determine what academic, student, and institutional factors may have contributed to the 6% improvement in one-year retention for the 2014 cohort (72%) compared to the 2013 cohort (66%). Based on the data shown in Figures 10- 16, it seems like increases in SAT scores, percent of TFCSs receiving the IUPUI TFCS Grant, and increased participation in programming, specifically Summer Bridge may have contributed to the improved retention rates.

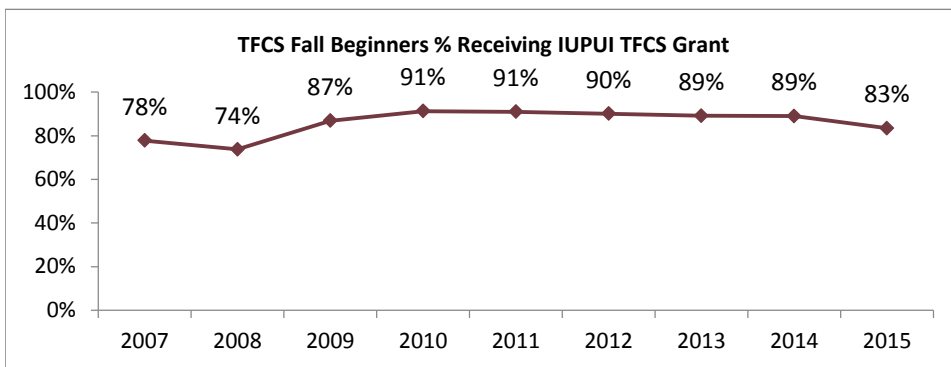
**Figure 10. Average High School GPAs 21st Century Scholar First-Time Beginners 2007-2015**



**Figure 11. Average SAT Score 21st Century Scholar First-Time Beginners 2007-2015**

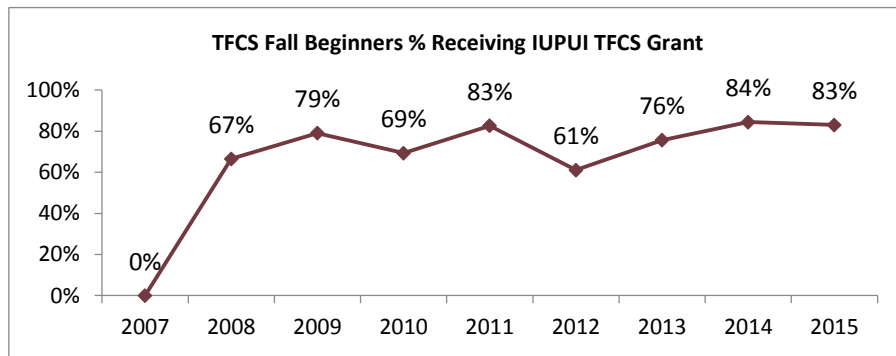


**Figure 12. Percent Receiving Federal Pell Grant 21st Century Scholar First-Time Beginners 2007-2015**

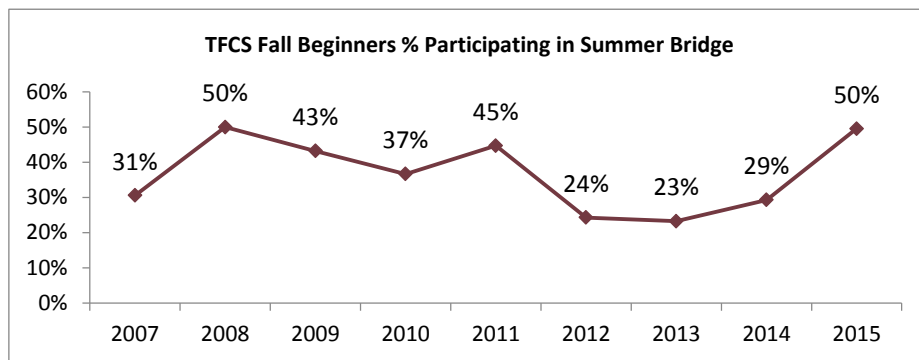




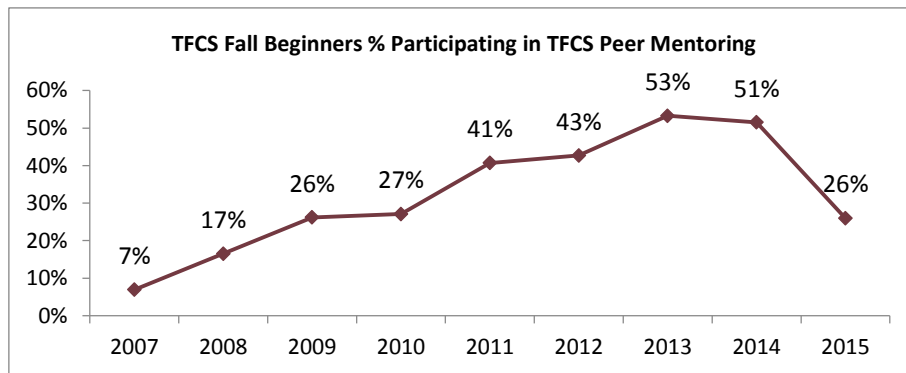
**Figure 13. Percent Receiving IUPUI Institutional Aid 21st Century Scholar First-Time Beginners 2007-2015**



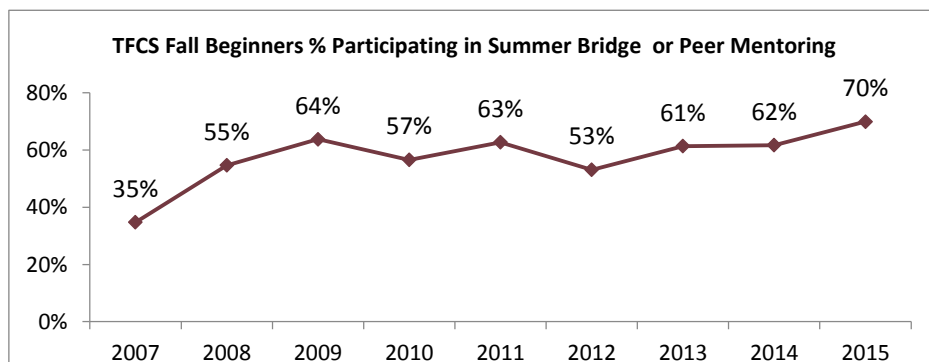
**Figure 14. Percent Participating in Summer Bridge 21st Century Scholar First-Time Beginners 2007-2015**



**Figure 15. Percent Participating in TFCS Peer Mentoring of 21st Century Scholar First-Time Beginners 2007-2015**



**Figure 16. Percent Participating in IUPUI Academic Support Programming of 21st Century Scholar First-Time Beginners 2007-2015**



A series of analyses were conducted to determine if the interventions designed to improve the academic success of TFCS students were having significant positive influences on academic success outcomes. Results shown in Table 9 suggest that TFCS students who received state funding and participated in Summer Bridge and peer mentoring had significantly higher FY GPAs. Peer mentoring participants had significantly higher retention rates, even when accounting for differences in academic preparation and income levels. Results shown in Table 10 suggest that TFCS who received the IUPUI Grant and participated in Summer Bridge, peer mentoring or both had better academic success outcomes compared to TFSC Grant recipients who did not participate in the programming. The students who did not participate had slightly lower HS GPAs and SAT scores. These analyses do not take into account selection effects and it is possible that the students who participated in the programming were different compared to nonparticipants and these differences, rather than the programming, may have contributed to the differences in academic success outcomes.

**Table 9. 2014 Full-Time 21st Century Scholar Beginners Program Participation and Academic Success Outcomes: Retained at IUPUI Indianapolis Campus any Degree (Associates, Certificates, Bachelors)**

Program	TFCS Participants			TFCS Nonparticipants		
	N	One-Year Retention IUPUI IN	FY GPA	N	One-Year Retention IUPUI IN	FY GPA
Twenty First Century Scholars Peer Mentoring	327	<b>70%</b>	<b>2.77</b>	308	<b>61%</b>	<b>2.33</b>
Summer Bridge	186	66%	2.61	449	65%	2.55
TFCS Peer Mentoring and Summer Bridge	121	69%	<b>2.72</b>	514	65%	<b>2.52</b>
Themed Learning Communities	246	67%	2.63	473	63%	2.51
Campus Housing	243	71%	2.61	392	63%	2.50

Note 1: Twenty First Century Scholars means students received State TFCS funds.

Note 2: Bolded items are significantly different based on chi-square or independent t-test results ( $p < .05$ )

Note 3: Peer Mentoring had a marginally significant effect on first year cumulative GPA and one-year retention rate when accounting for high school GPA, SAT score and low-income (received a Federal Pell Grant) based on linear and logistic regression procedures ( $p < .10$ )

**Table 10. 2014 21st Century Scholar Beginners Program Participation and Academic Success Outcomes**

	All TFCS (Received State Funds First Fall ) N=635	All TFCS IUPUI Grant First Fall N=573	TFCS IUPUI Grant Peer Mentoring N=338	TFCS IUPUI Grant Summer Bridge N=173	TFCS IUPUI Grant Summer Bridge or Peer Mentoring N=390	TFCS IUPUI Grant and NO Summer Bridge or Peer Mentoring N=183
One-Year Retention Rate (any IU)	72%	71%	77%	73%	76%	61%
One-Year Retention Rate (IUPUI IN)	66%	63%	68%	65%	67%	56%
Fall-Spring Retention (Any IU)	89%	88%	93%	91%	91%	82%
Academically Dismissed First Fall	8%	9%	4%	7%	6%	15%
First Fall Semester GPA	2.64	2.59	2.84	2.64	2.74	2.27
First-Year GPA	2.56	2.51	2.76	2.54	2.68	2.14
First-Year GPA Below 2.00	24%	25%	17%	23%	19%	37%
<b>Comparison Measures</b>						
High School GPA	3.35	3.32	3.37	3.29	3.34	3.28
Average SAT Score	974	960	969	962	967	947
% Academic Honors Diploma	62%	60%	64%	53%	61%	58%
Average Unmet Financial Need	\$3,143	\$3,438	\$3,314	\$3,168	\$3,396	\$3,528
% Received Pell Grant	89%	94%	93%	95%	94%	95%
% African American, Latino(a), Two or More Races	37%	38%	37%	45%	38%	38%
% Living On Campus	38%	38%	49%	55%	48%	16%

Inside Track coaching for TFCS represents a new collaboration between Indiana’s Commission for Higher Education (ICHE) and IUPUI. Inside Track was developed to provide individualized success coaching. For the pilot year in 2014, 100 First-Year 21st Century Scholars students were paired with an Inside Track success coach who scheduled regular phone conversations with students to discuss their transition and adjustment to university life, as well as any obstacles that may be hindering their success in college. Although students did not meet with the coach in person, the coach was able to refer students to the TFCSSP office or other campus resources as necessary. The Inside Track program also continued for the 2015-2016 school year. It is noteworthy that the students who were selected for the IUPUI Inside Track coaching were high-risk TFCS who received the TFCS IUPUI Grant, but did not participate in peer mentoring or Summer Bridge programming due to late registrations.

In an effort to enhance understanding of the effects of Inside Track coaching on academic success outcomes, matched comparison groups were developed by selecting TFCS students in prior years who did not receive peer mentoring or Summer Bridge programming. The students were also matched on academic preparation, income level, and ethnicity. Shown in the Table 11 below, results suggest that the 2014 Inside Track TFCS Grant recipients had higher levels of academic success compared to the matched comparison groups.

**Table 11. Inside Track Student Outcomes Compared to a Matched Comparison Group\***

Outcome and Comparison Measures	2015 Inside Track Coaching Participant** N=100	2014 Inside Track Coaching Participant N= 100	Matched Comparison Group* Fall 2013 N=112	Matched Comparison Group* Fall 2012 N=87
One-Year Retention Rate (any IU)	N/A	59%	50%	47%
One-Year Retention Rate (IUPUI IN)	N/A	57%	46%	46%
Fall-Spring Retention (Any IU)	75%	82%	75%	74%
Academically Dismissed First Fall	14%	15%	15%	18%
First Fall Semester GPA	2.23	2.24	2.02	2.20
First-Year GPA	N/A	2.18	1.93	2.06
First-Year GPA Below 2.00	N/A	37%	43%	44%
<b>Comparison Measures</b>				
High School GPA	3.30	3.23	3.27	3.24
Average SAT Score	945	925	952	962
% Academic Honors Diploma	63%	49%	62%	55%
% Received Pell Grant	95%	95%	93%	93%
% African American, Latino(a), Two or More Races	40%	41%	34%	34%
% Living On Campus	41%	10%	32%	22%

\* Matched comparison group consisted of First-Time, Full-Time 21st Century Scholars Students at IUPUI Indianapolis who Received State and IUPUI Institutional Funds and did not participate in peer mentoring or summer bridge interventions (2013 and 2012 cohorts previous to the implementation of the Inside Track Coaching interventions).

\*\* 2015 Inside Track group includes only students who were 21 years old and under and excludes the Inside Track focused intervention on students 22-24 years old.