

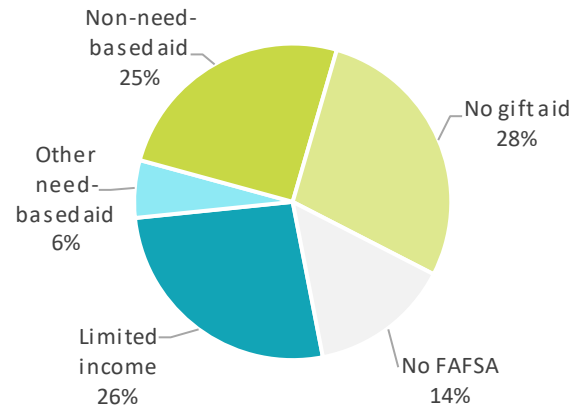


Student Success and Financial Aid

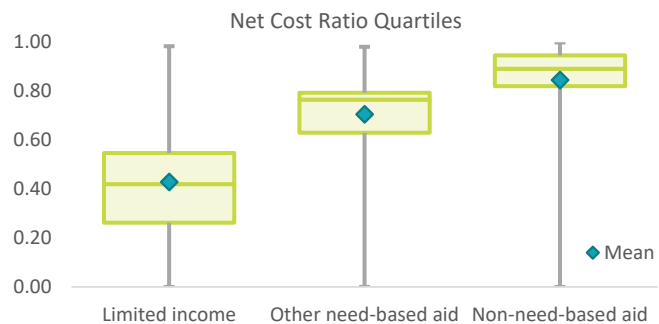
This report examines student success outcomes (persistence, GPA, credit completion) for the FA16 and FA17 first-time, full-time (FTFT) Colorado resident cohorts by the level of financial aid awarded. Receipt of financial aid is contingent upon the completion of the Free Application for Federal Student Aid (FAFSA); the majority of students (about 85%) complete the FAFSA. This report also provides an overview of demographic characteristics and experiences as captured in the annual [Taking Stock](#) (TS) survey.

Students are classified into one of five groups depending on the level of financial aid received, if any.

- **Limited income:** Pell recipients and those exhibiting the greatest financial need receive a variety of need-based grants and/or scholarships; includes ASSET students, who often have financial need yet are not eligible to complete the FAFSA process. The expected family contribution (EFC)¹ of these students is below 5,400.
- **Other need-based aid:** students exhibiting financial need receive a variety of need-based grants and/or scholarships but do not receive a Pell grant. This group can be operationalized as lower middle income.
- **Non-need-based aid:** students who received grants and scholarships based on criteria other than financial need
- **No gift aid:** students who did not receive any grants or scholarships; they are personally responsible for 100% of their cost of attendance
- **No FAFSA:** student who did not complete the FAFSA, required in order to qualify for need based financial aid; unless they receive non-need-based awards they are personally responsible for 100% of their cost of attendance



For each of these aid groups, each student's total aid received was compared to their cost of attendance (COA) to arrive at a *net cost ratio*, the proportion of a student's COA after "gift aid" (i.e., grants and scholarships that do not need to be repaid) has been applied. For example, a student's cost of attendance was \$26,900 and they received \$8,000 in grants and scholarships. Their net cost is \$18,900 (\$26,900 - \$8,000), resulting in a net cost ratio of .70 (\$18,900 ÷ \$26,900). This 0.70 (or 70%) of cost falls to the student and their family, to be paid via savings, loans, or other means. Generally, these ratios increase as the financial need of the group decreases; however, there is significant variation in the spread of ratios indicating that the ratio varies by income group.



¹ EFC is an index used by the federal government to determine the level of aid for which a student qualifies and is based on their family's income, assets, and other financial information. The EFC to qualify for Pell funds changes year to year; for FA16 students were eligible for Pell funds if their EFC was 5,234 or lower and for FA17, it was 5,328 or lower.

Summary of Findings by Financial Aid Award Level

The primary finding of this report utilizes regression models to determine a maximum cost ratio that students can bear and maintain persistence at our overall rate by income category. This summary describes the demographics, outcomes, and self-reports of financial stresses as well as the impact of the ratio model by income group.

Limited Income

Limited income students make up about one-quarter of the FA16 and FA17 resident cohorts and have the highest representation of first generation (FG) and racially minoritized (RM) students among the five financial aid groups. About half of limited income students are FG or RM; over one-third of students identified as Hispanic/Latinx. About 60% of limited income students are female. These students have lower-than-average index scores of 112 (compared to 115 overall) and about one in five are admitted with recommended support.

Overall this group has slightly lower than average success outcomes (Figure 5, p.7). Almost 18% of limited income students did not finish their first fall in good academic standing, potentially putting their aid at risk and just over half completed 15 credits their first term. About 82% of limited income students persisted to their second fall; however, there is a strong negative correlation between net cost ratio and persistence within this group. Success rates are higher in this group for the students that are funded more fully.

Additionally, the self-report of financial concerns among this group correlate with the institutional analysis of financial aid. For instance, when asked to rate several finance-related questions on the TS survey, they had higher levels of concern about paying for college than their peers even though they had the lowest average net cost ratio of 0.43. Notably this group receives the largest average amount of grants and scholarships; however, about three in five took out student loans and one in five took out parent or other loans to help cover their remaining college costs. This indicates that students' actions are aligning with their self-report of financial stress.

From an equity perspective, the regression models suggest that this group should have a net cost ratio at or below 0.41 for these students to be able to persist at our overall rate. However, there are approximately 500 limited income students in FA17 with net cost ratios above this suggested level. An additional \$2.85 million in need-based aid would be needed to lower the ratio to at least 0.41 for these 500 students. On average, students in this group need about \$5,600 more in grants or scholarships in their financial package. The models suggest that lowering the net cost ratio to this suggested level might increase the second fall persistence by about 4.7 percentage points for this group, which corresponds to an additional 24 students being retained.

Other Need-based Aid

Students that receive other need-based aid can be characterized as lower middle income. This is the smallest group of aid recipients (6% of the students included in this study), these students had higher representation of FG and RM students than the overall with 42% FG and 37% RM students, compared to 26% and 29%, respectively, yet had a similar average CCHE index of 114. Almost 18% of these students were admitted with recommended support.

Similar to limited income students, recipients of other need-based aid expressed concerns about being able to pay for college. With a net cost ratio of 0.71, these students utilized student and parent loans at a higher rate than both limited income and non-need-based aid students. Gift aid for these students averaged about \$11,000 and student loans (used by over 70% of students) averaged over \$5,600, which is higher than the maximum loan amount allowed for first time students (indicating some of these students may be taking out unsubsidized loans

to help cover their college costs). Parent and other loans (utilized by over one-third of students) averaged about \$12,000. Again this indicates that students' financial behaviors are aligning with self-reports from the TS survey.

Compared to the other financial aid groups, students receiving other need-based aid tended to have lower levels of success in the areas of completing 15 credits, ending their first term in good academic standing, and persisting to their second fall. In fact, persistence for this group of students was the lowest of the five peer groups at about 80%, which is about 5 percentage points (PP) lower than the overall average. Again there is a strong correlation between success rates and lower net cost ratios for students in this group

The regression models suggest that this group should have a net cost ratio at or below 0.63 for these students to be able to persist at our overall rate. However, there are approximately 94 in FA17 with net costs ratios above this suggested level. An additional \$437 thousand in need-based aid is needed to lower the ratio to at least 0.63 for these 94 students. On average, students in this group need about \$4,650 more in grants or scholarships in their financial package. The models suggest that lowering the net cost ratio to this suggested level may increase the second fall persistence by about 5 percentage points for this group, which corresponds to an additional 5 students being retained. It is important to note that magnitude of the effect for both this group and the limited income students is strong (approximately a 5 percentage point gain in persistence), but the headcount in these groups are relatively small so the impact on our overall rates is marginal. For instance, 29 additional students persisting in FA17 only produces a .6 PP change in our overall rate.

Non-need-based Aid

These students comprised about 25% of the FA16 and FA17 cohorts and held the highest average CCHE index of 125 (compared to 115 overall); less than 5% were admitted with recommended support. Less than one in five are racially minoritized or first generation students. Among the wealthier students at CSU (with an AGI of \$159,000 and EFC of 47,000), these students tended to be neutral in their assessment of any financial concerns and are somewhat confident they would be able to pay next year's tuition and fees according to TS survey results. All of these students received scholarship funds, which resulted in an average net cost ratio of 0.85. To cover their remaining COA, less than half took out student loans, averaging about \$5,100, and about one-quarter took out parent or other loans, averaging about \$15,500.

Academically, these students have the strongest outcomes. About two-thirds of students completed at least 15 credits their first fall and ended the term with a 3.22 GPA. Almost 90% persisted to their second fall, about 5 PP higher than the overall average. Estimating additional financial aid based on the net cost ratio was not applied to this group because they do not have financial need.

No Gift Aid

The largest proportion of students in this study (28%), these students were among the wealthiest with an average AGI of \$169,000 and EFC of 47,300. These students did not qualify for need-based aid, yet the CCHE index of 111 (4 points lower than the overall and the lowest of the five financial aid groups), may indicate they did not qualify for non-need-based aid either. Compared to the cohorts overall, students without aid had lower representation of FG (17%) and RM (21%) students.

Students in the no gift aid group have lower than average success measures. The rates at which students completed 15 credits their first fall was about 3 PP lower than the overall average and persistence was 2 PP lower; GPA was slightly lower as well (2.77 compared to 2.90).

Despite being fully responsible for their college costs (net cost ratio of 1.00), these students were generally neutral in their assessment of the financial concerns on the TS survey and somewhat confident they would be

able to pay for school next semester. About 9 in 10 of these students used student loans (averaging about \$5,200) and almost two-thirds used parent or other loans (averaging \$18,300) to cover their college costs. Students falling into this group may warrant additional consideration when institutional need-based aid is concerned (since academic or non-need-based aid may be out of reach); these students have some level of financial need given the proportions seeking loans as well as the average amounts of these loans. The net cost ratio was not applied to this group because there is no variation in their ratio (by the group definition all incur 100% of the cost).

No FAFSA

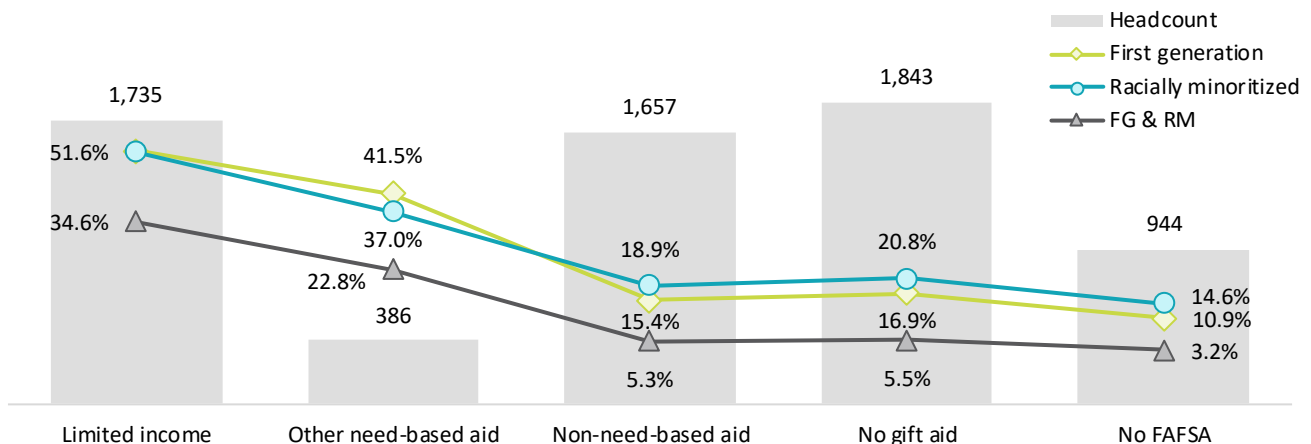
Less than 1,000 students (15%) in the FA16 and FA17 cohorts did not complete the FAFSA process. Overall these students tended to be less diverse than their peers, less likely to be FG, and less likely to be female. Academically, these students tended to perform similar to the overall average. Because these students did not complete the FAFSA, financial data are incomplete and cannot be reported (e.g., AGI and EFC is unknown). They are responsible for funding the entirety of their education and reported low levels of financial concerns on the TS survey. Most did not feel that financial obligations interfered with their ability to focus on their studies and they were confident they would be able to pay for their next term.

Student Characteristics

Of the 6,565 students included in this study, about one-third of student received some form of need-based aid; the majority of these students had limited incomes and received Pell funds. One-quarter of students received non-need-based aid (e.g., non-need-based scholarships) and slightly more than one-quarter received no gift aid. Students receiving need-based aid were more likely to be first generation or racially minoritized when compared to those receiving non-need-based aid, no gift aid, and non-filers (no FAFSA). A closer look at racially minoritized students revealed that a majority of students identified as multi-racial, more commonly as multi-racial with white (e.g., Hispanic/Latinx and white) than multi-racial and not white (e.g., Hispanic/Latinx and Native American; see Table A 1).

Table A 1 (p. 11) displays detailed student characteristics. Notably, limited income and students without any aid had lower average CCHE index scores (112 and 111, respectively) compared to the overall average (115); students receiving only non-need-based aid had the highest average index (125). About 20% of limited income students were admitted with recommended support compared to about 15% of students with no gift aid and no FAFSA.

Figure 1. First Generation and Racially Minoritized Proportions of FTFT Resident Cohorts by Financial Aid Group

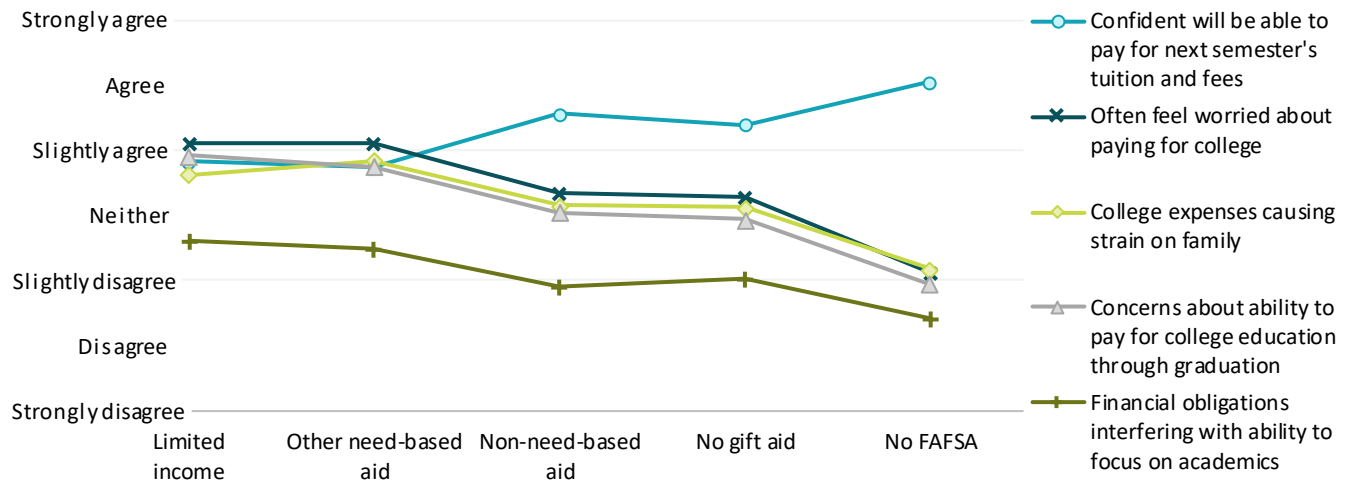


Financial Concerns

Each year, new and transfer students are asked to complete the [Taking Stock](#) (TS) survey. Administered online since FA15 during the fourth week of the semester, the TS assesses students' experiences related to their skill and abilities, expectations, behaviors, as well as employment, use of resources, and future intentions. The section of the report explores the extent to which students are concerned about their finances and paying for college.

In general, over 4,000 new students respond to the survey each year. Figure 2 displays the average scores (where 1 = strongly disagree and 7 = strongly agree) by financial aid level for five potential financial concerns. Table B 1 (p. 17) displays the complete frequencies for each survey item for each financial aid group.

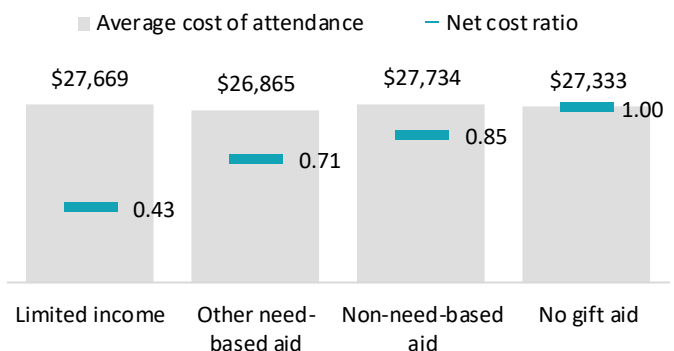
Figure 2. Financial Concerns from the Taking Stock Survey by Financial Aid Group



Overall, limited income students and those receiving need-based aid tended to exhibit greater financial concerns than their peers in the areas of feeling worried about paying for college (now, next semester, and through to graduation) as well as college expenses causing strain on their families. Student who did not receive need-based aid, had no gift aid, or did not complete a FAFSA were more likely to feel that they would be able to pay for next semester's tuition and fees than those receiving need-based aid. By and large, students who did not complete a FAFSA reported low levels of financial concerns and most students did not feel that financial obligations interfered with their ability to focus on their studies.

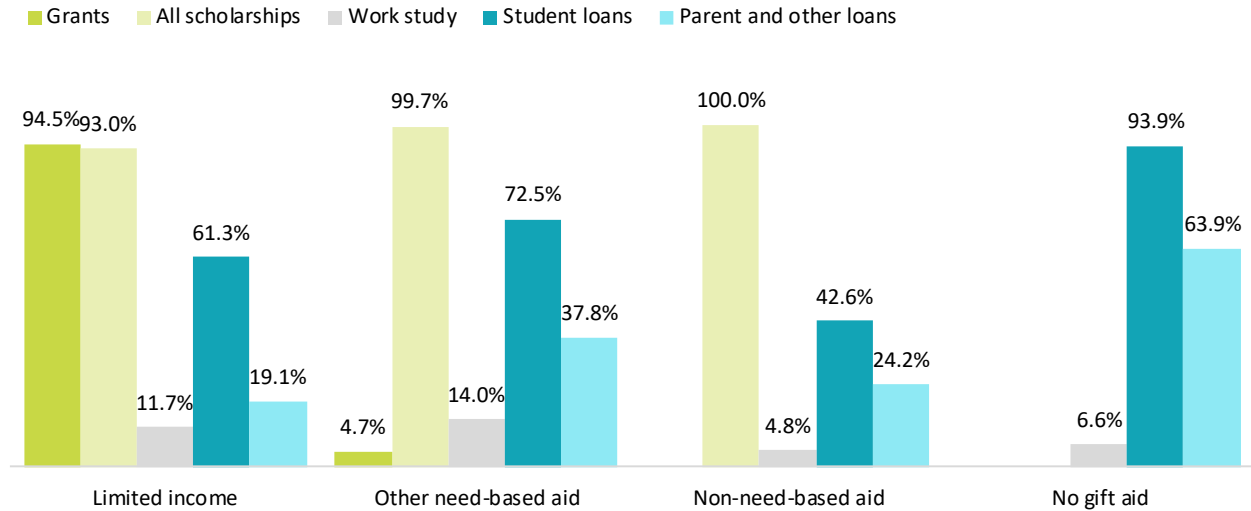
Funding Sources and Strategies

For the students in the FA16 and FA17 resident FTFT cohorts the cost of attendance averaged about \$27,000. (For students without a FAFSA on file, their cost of attendance is unknown, though likely similar to those who filed a FAFSA.) Limited income students had the lowest average net cost ratio, 0.43, meaning, on average, they received enough gift aid to cover all but about 43% of their cost of attendance. For all other students, the net cost ratio ranged between 0.71 and 1.00.



In order to make up the difference between gift aid and the cost of attendance, students and their families may have to adopt varied funding strategies (see Figure 3).

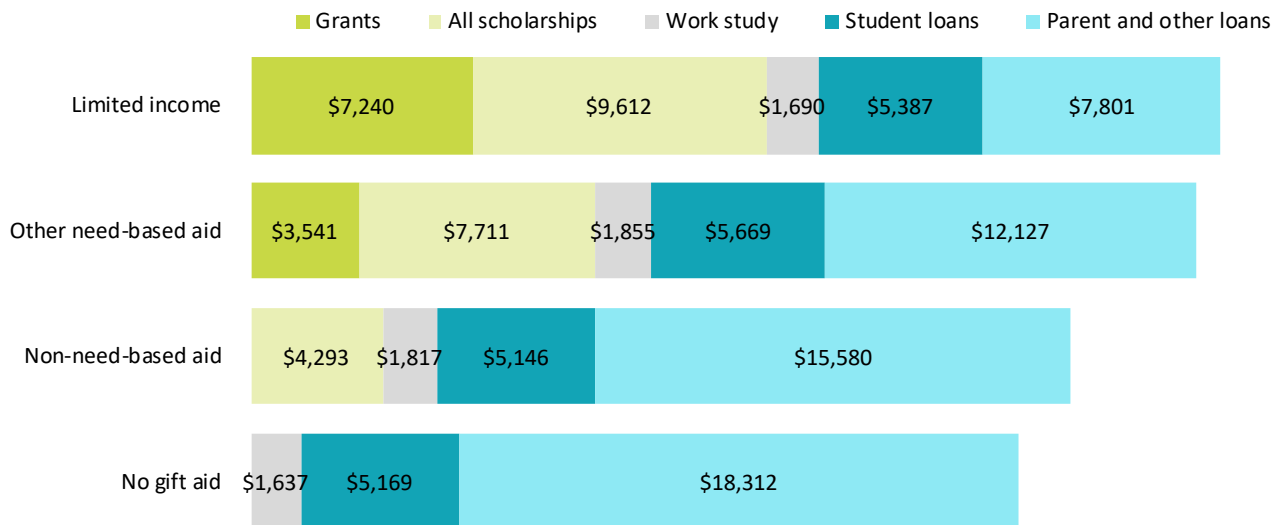
Figure 3. Funding Sources by Financial Aid Group



Limited income students exhibited the greatest variety of funding sources, utilizing grants (includes Pell funds), scholarships (includes CSU Tuition Assistance Grants and CTC funds), work study, and loans (e.g., student and Parent Plus loans). Students who received other need-based aid relied heavily on loans to cover the costs their scholarships did not. Students who did not receive any aid used loans to cover their costs. Data for students who did not complete an FAFSA are incomplete and not reported.

While many students utilized loans, they are limited to \$3,500 in subsidized loans and \$2,000 in unsubsidized loans to pay the remainder of college costs. Thus other loan sources may be used, such as private or parent PLUS loans, which have no borrowing limits. Figure 4 displays the average dollars of funding received by funding source for each financial aid level.

Figure 4. Average Dollars of Funding by Source and Financial Aid Group

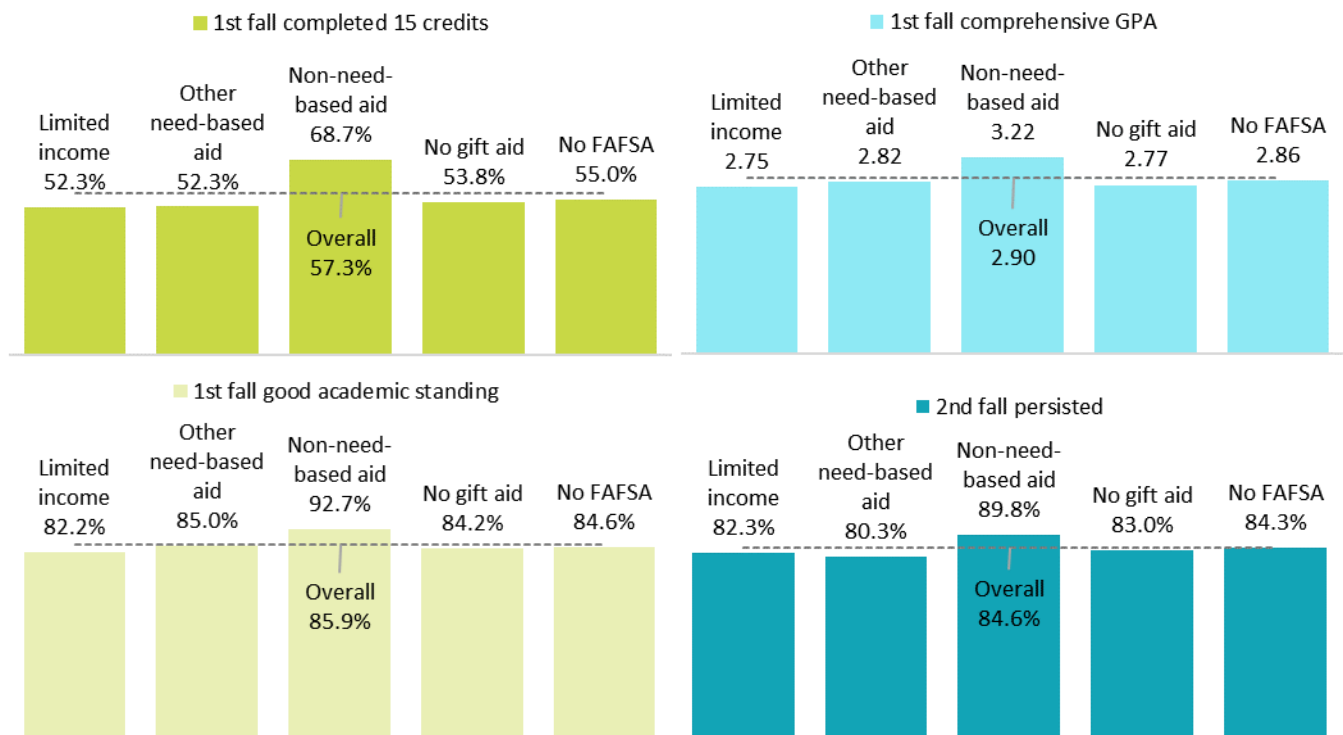


Limited income students received almost \$17,000 in grants and scholarships and they had to finance the remainder of their college costs through student loans (61% of students and about \$5,400 on average) as well as parent and other loans (19% of student and about \$7,800 on average). Students with other need-based aid received about \$11,000 in grants and scholarships and 73% of students took out over \$5,600 in student loans (which includes unsubsidized, subsidized, or Perkins loans); 38% of their parents took out about \$12,000 in loans to help cover the cost of attendance. While the frequency of taking out parent and other loans was lower for students with non-need-based aid compared to those with need-based aid, the average dollar amount of these loans was higher (almost \$16,000). For students with no gift aid, the financial burden to pay for college fell largely on the students' parents; 62% of parents took out loans averaging about \$18,000. Data for students who did not complete an FAFSA are incomplete and not reported.

Student Success Outcomes

Several measures assess the success of students by financial aid group. Measures include the completion of 15 credits during the first term, maintaining good academic standing, cumulative GPA, and persistence to the second fall term. Figure 5 summarizes these findings and these metrics by cohort year are available in Table A 2 (p. 13).

Figure 5. Student Success Outcomes by Financial Aid Group



Overall, student success measures varied by financial aid group. Students who received non-need-based aid consistently performed above the overall average in all success measures. Limited income students tended to have lower levels of success across the measures. Notably, almost 18% of limited income students did not finish their first fall in good academic standing, potentially putting their aid at risk.

Figure 6 examines the relationship between second fall persistence and net cost ratio for each financial aid group and Table 1 displays the number of students in each net cost ratio bin.

Figure 6. Observed Persistence to 2nd Fall by Net Cost Ratio and Financial Aid Group

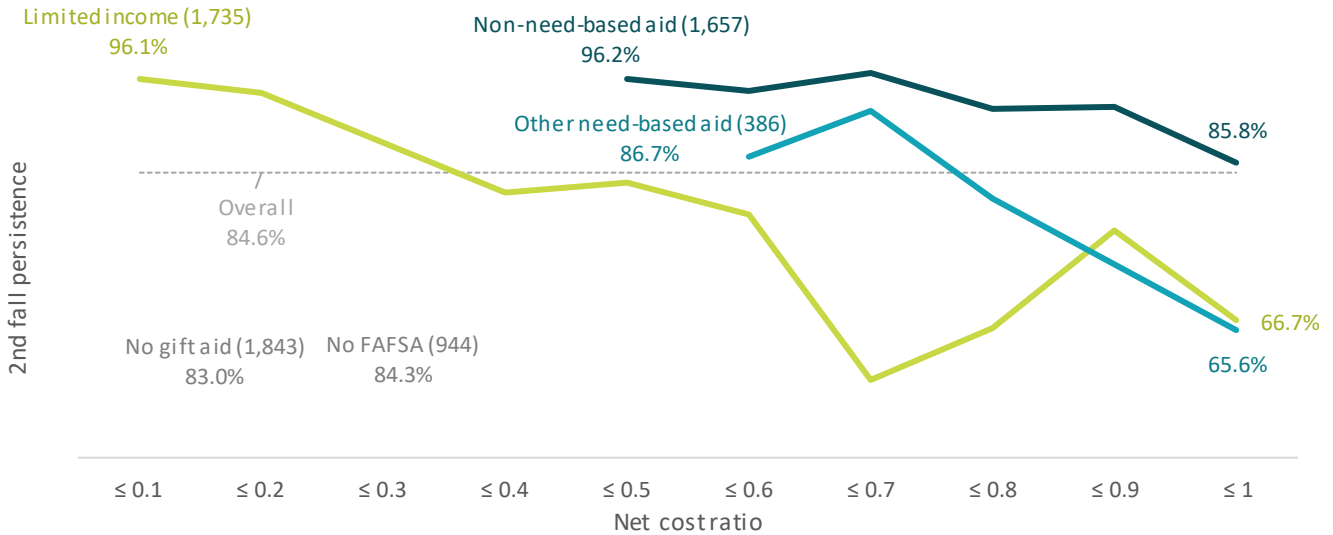


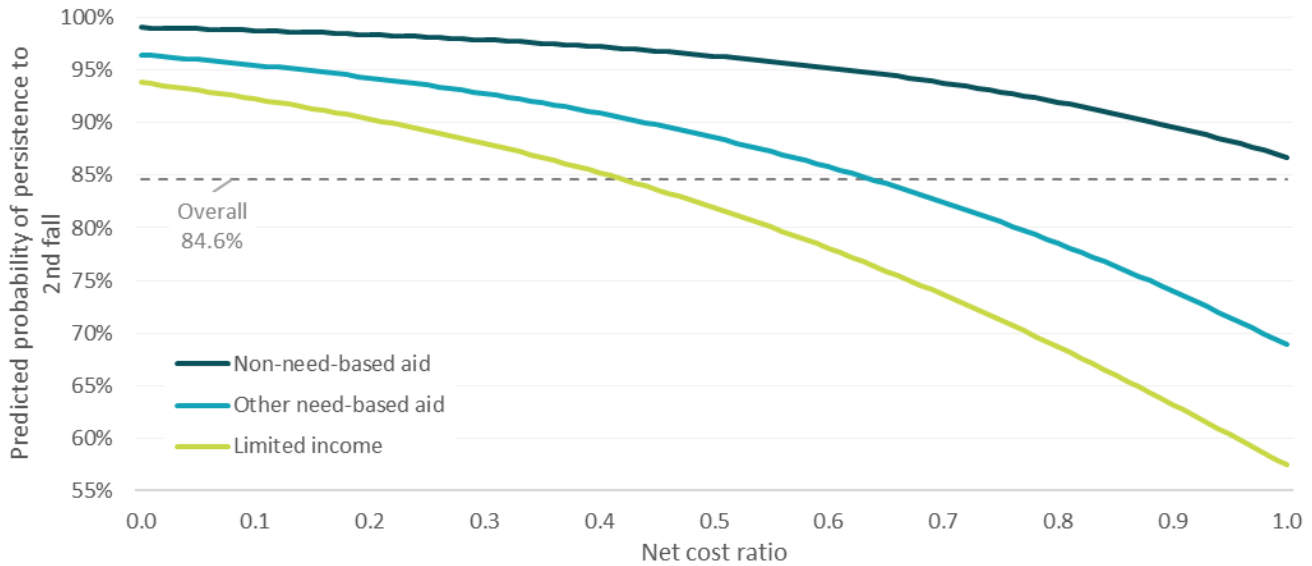
Table 1: Number of Students by Net Cost Ratio and Financial Aid Award Level

	≤ 0.1	≤ 0.2	≤ 0.3	≤ 0.4	≤ 0.5	≤ 0.6	≤ 0.7	≤ 0.8	≤ 0.9	≤ 1	Total
Limited income	127	162	249	203	443	197	69	152	85	48	1,735
Other need-based aid						83	51	162	90		386
Non-need-based aid					78	37	63	174	522	783	1,657
No gift aid										1,843	1,843
No FAFSA										944	944

For limited income students, persistence to second fall remained at or above the overall average when their net cost ratio was below 0.40 (their observed average cost ratio was 0.43). Students receiving other need-based aid had persistence rates at or above the overall average when their net cost ratio was below 0.8 (their observed average ratio was 0.71). When these students were responsible for just about the entirety of their COA (about 90 students), less than two-thirds persisted to their second fall term. Student receiving non-need-based aid had persistence rates above the overall average for all net cost ratio intervals.

To further assess the association between net cost ratio and persistence, logistic regression models that control for academic performance (CCHE index) and net cost ratio and were generated for the three groups receiving gift aid: limited income, other need-based aid, and non-need-based aid. Figure 7 displays the predicted second fall persistence for these aid recipients and Table A 5 (p. 16) provide the regression statistics.

Figure 7. Predicted Persistence to 2nd Fall by Net Cost Ratio and Financial Aid Group



Assumes average CCHE index scores of 112 for limited income, 114 for other need-based aid, and 125 for non-need-based aid.

After controlling for CCHE index, the three models predicted that for each tenth of a point increase in net cost ratio, students have about 22% lower odds of persisting to their second fall. The odds ratios for the three groups ranged between .78 for limited income and non-need-based aid students to .76 for other need-based aid students so the magnitude of the association is similar across groups; see Table A 5.

The net cost ratios have a strong negative association with persistence even after controlling for academic preparation for limited income and lower middle income students. The models also provide an estimate of the maximum net cost ratio for students to be able to achieve equitable outcomes. However, about 56% of limited income students and 75% of middle-income students have a higher than ideal net cost ratio. Table 2, below, displays the possible impact of increasing financial aid so that no student has a ratio above the suggested level.

Table 2: Cost and Persistence Impact of Reducing the Net Cost ratio to the Suggested Maximum

	Limited income	Other need-based aid
Suggested maximum net cost ratio	0.41	0.63
FA17 number of students above maximum net cost ratio	507	94
Observed 2nd fall persistence for students with net cost ratio above suggested	76.7%	77.5%
Predicted 2nd fall persistence at suggested maximum net cost ratio	81.4%	82.5%
Percentage point change in persistence rate	4.7	5.0
Estimated number of additional students from FA17 cohort retained to 2nd fall	24	5
FA17 additional aid needed to achieve suggested maximum net cost ratio	\$2,850,235	\$436,877

The table above displays the hypothetical scenario of limited income and lower middle income students with high net cost ratios (those with ratios above the suggested ceiling, which is 0.41 for limited income and 0.63 for lower middle income) receiving aid to reduce their ratio to the suggested maximum. Based on aid data available, 507 limited income students in the FA17 cohort would need about \$2.85 million in additional gift aid to lower their net cost ratio to 0.41 and 94 other need-aid based students would need about \$437,000 in additional gift aid to lower their net cost ratio to 0.63. The models predict that this policy change may influence the persistence rates upwards by about 5 percentage points per group. These changes in rates correspond to an additional 24 limited income and 5 other need-based aid students persisting to their second fall.

Conclusions

Overall, the level of financial aid is positively associated with student success outcomes for students in each income category. Given the association, increasing efforts to assist limited income students, who tend to be more diverse, may help to close achievement gaps. While various formulas and indices identify students with no gift aid as having adequate resources to pay for college, their borrowing behavior would indicate otherwise. These students also performed lower across the various student success outcome measures. The institution may wish to re-examine the institutional need analysis for this group that borrowed at high levels. For many students, the burden of paying for college falls on the entire family; almost two-third of students and their parents took out loans to pay for school. While the financial data for non-filers is incomplete, TS survey results and measure of student outcomes would indicate these students are not filing because they do no need or want aid.

Appendix A. Student Characteristics

The following tables display characteristics of the FTFT Colorado resident cohorts in this study. These analyses are unique by student and reflect student level outcomes (e.g., persistence, in good academic standing).

Reported percentages for racial and ethnic classifications are not mutually exclusive as students may identify with more than one race or ethnicity.

Table A 1: Demographics by Cohort Term and Financial Aid Group

		FA16		FA17		Overall	
Overall	Headcount	100%	3,301	100%	3,264	100%	6,565
	Female	55.8%	1,841	53.0%	1,731	54.4%	3,572
	CCHE index	115.4	3,297	114.9	3,248	115.2	6,545
	First generation	26.2%	864	26.6%	867	26.4%	1,731
	Pell recipient	24.4%	806	25.6%	834	25.0%	1,640
	Admitted with recommended support	13.4%	441	14.9%	486	14.1%	927
	International	0.0%	0	0.0%	0	0.0%	0
	Hispanic/Latinx	16.3%	537	19.0%	619	17.6%	1,156
	Native American	2.0%	65	3.0%	99	2.5%	164
	Black or African American	5.0%	164	4.7%	153	4.8%	317
	Asian, Hawaiian, Pacific Is	6.3%	209	6.8%	221	6.5%	430
	Racially minoritized	26.9%	888	30.1%	984	28.5%	1,872
	- Not white, single race	10.1%	334	9.7%	316	9.9%	650
	- Multi-race, with white	15.4%	509	18.4%	601	16.9%	1,110
	- Multi-race, not white	1.4%	45	2.1%	67	1.7%	112
First generation and racially minoritized	12.7%	418	15.0%	488	13.8%	906	
Limited income	Headcount	100%	844	100%	891	100%	1,735
	Female	58.1%	490	59.7%	532	58.9%	1,022
	CCHE index	112.8	843	111.7	882	112.2	1,725
	First generation	49.3%	416	54.4%	485	51.9%	901
	Pell recipient	95.5%	806	93.6%	834	94.5%	1,640
	Admitted with recommended support	20.0%	169	22.7%	202	21.4%	371
	International	0.0%	0	0.0%	0	0.0%	0
	Hispanic/Latinx	31.4%	265	38.8%	346	35.2%	611
	Native American	3.1%	26	4.6%	41	3.9%	67
	Black or African American	11.1%	94	10.1%	90	10.6%	184
	Asian, Hawaiian, Pacific Is	6.4%	54	7.5%	67	7.0%	121
	Racially minoritized	47.4%	400	55.6%	495	51.6%	895
	- Not white, single race	20.9%	176	19.3%	172	20.1%	348
	- Multi-race, with white	23.7%	200	32.5%	290	28.2%	490
	- Multi-race, not white	2.8%	24	3.7%	33	3.3%	57
First generation and racially minoritized	31.0%	262	37.9%	338	34.6%	600	
Other need-based aid	Headcount	100%	267	100%	119	100%	386
	Female	53.6%	143	58.0%	69	54.9%	212
	CCHE index	114.7	267	113.1	117	114.2	384
	First generation	41.2%	110	42.0%	50	41.5%	160
	Pell recipient	0.0%	0	0.0%	0	0.0%	0
	Admitted with recommended support	16.1%	43	21.0%	25	17.6%	68
	International	0.0%	0	0.0%	0	0.0%	0
	Hispanic/Latinx	21.3%	57	32.8%	39	24.9%	96
Native American	3.7%	10	5.0%	6	4.1%	16	

		FA16		FA17		Overall		
	Black or African American	6.0%	16	5.0%	6	5.7%	22	
	Asian, Hawaiian, Pacific Is	5.2%	14	12.6%	15	7.5%	29	
	Racially minoritized	31.1%	83	50.4%	60	37.0%	143	
	- Not white, single race	11.2%	30	16.0%	19	12.7%	49	
	- Multi-race, with white	17.2%	46	31.1%	37	21.5%	83	
	- Multi-race, not white	2.6%	7	3.4%	4	2.8%	11	
	First generation and racially minoritized	19.9%	53	29.4%	35	22.8%	88	
Non-need-based aid	Headcount	100%	834	100%	823	100%	1,657	
	Female	60.0%	500	54.1%	445	57.0%	945	
	CCHE index	124.6	834	124.7	822	124.7	1,656	
	First generation	16.5%	138	14.2%	117	15.4%	255	
	Pell recipient	0.0%	0	0.0%	0	0.0%	0	
	Admitted with recommended support	3.8%	32	4.4%	36	4.1%	68	
	International	0.0%	0	0.0%	0	0.0%	0	
	Hispanic/Latinx	9.7%	81	10.8%	89	10.3%	170	
	Native American	1.1%	9	2.7%	22	1.9%	31	
	Black or African American	3.1%	26	2.4%	20	2.8%	46	
	Asian, Hawaiian, Pacific Is	6.6%	55	5.0%	41	5.8%	96	
	Racially minoritized	18.9%	158	18.8%	155	18.9%	313	
	- Not white, single race	6.4%	53	5.1%	42	5.7%	95	
	- Multi-race, with white	11.9%	99	12.4%	102	12.1%	201	
	- Multi-race, not white	0.7%	6	1.3%	11	1.0%	17	
	First generation and racially minoritized	5.3%	44	5.2%	43	5.3%	87	
	No gift aid	Headcount	100%	913	100%	930	100%	1,843
		Female	52.8%	482	50.1%	466	51.4%	948
		CCHE index	110.7	911	110.7	928	110.7	1,839
First generation		16.6%	152	17.2%	160	16.9%	312	
Pell recipient		0.0%	0	0.0%	0	0.0%	0	
Admitted with recommended support		16.2%	148	14.2%	132	15.2%	280	
International		0.0%	0	0.0%	0	0.0%	0	
Hispanic/Latinx		11.1%	101	11.9%	111	11.5%	212	
Native American		2.0%	18	2.2%	20	2.1%	38	
Black or African American		2.1%	19	3.2%	30	2.7%	49	
Asian, Hawaiian, Pacific Is		6.8%	62	7.5%	70	7.2%	132	
Racially minoritized		19.9%	182	21.6%	201	20.8%	383	
- Not white, single race		5.6%	51	5.6%	52	5.6%	103	
- Multi-race, with white		13.7%	125	14.5%	135	14.1%	260	
- Multi-race, not white		0.7%	6	1.5%	14	1.1%	20	
First generation and racially minoritized		5.1%	47	5.8%	54	5.5%	101	
No FAFSA		Headcount	100%	443	100%	501	100%	944
		Female	51.0%	226	43.7%	219	47.1%	445
		CCHE index	113.3	442	112.7	499	113.0	941
	First generation	10.8%	48	11.0%	55	10.9%	103	
	Pell recipient	0.0%	0	0.0%	0	0.0%	0	
	Admitted with recommended support	11.1%	49	18.2%	91	14.8%	140	
	International	0.0%	0	0.0%	0	0.0%	0	
	Hispanic/Latinx	7.4%	33	6.8%	34	7.1%	67	
	Native American	0.5%	2	2.0%	10	1.3%	12	
	Black or African American	2.0%	9	1.4%	7	1.7%	16	

	FA16		FA17		Overall	
Asian, Hawaiian, Pacific Is	5.4%	24	5.6%	28	5.5%	52
Racially minoritized	14.7%	65	14.6%	73	14.6%	138
- Not white, single race	5.4%	24	6.2%	31	5.8%	55
- Multi-race, with white	8.8%	39	7.4%	37	8.1%	76
- Multi-race, not white	0.5%	2	1.0%	5	0.7%	7
First generation and racially minoritized	2.7%	12	3.6%	18	3.2%	30

Table A 2: Student Outcomes by Cohort Term and Financial Aid Group

	FA16		FA17		Overall		
Overall	Headcount	100%	3,301	100%	3,264	100%	6,565
	1st fall completed 15 credits	57.9%	1,912	56.6%	1,847	57.3%	3,759
	1st fall in good academic standing	86.3%	2,848	85.6%	2,793	85.9%	5,641
	1st fall cumulative GPA	2.91	3,301	2.88	3,263	2.90	6,564
	2nd fall persisted	84.6%	2,792	84.6%	2,760	84.6%	5,552
	2nd fall completed 15 credits	55.9%	1,533	55.8%	1,516	55.8%	3,049
	2nd fall in good academic standing	92.7%	2,544	92.2%	2,506	92.5%	5,050
	2nd fall cumulative GPA	3.02	2,743	3.00	2,718	3.01	5,461
Limited income	Headcount	100%	844	100%	891	100%	1,735
	1st fall completed 15 credits	52.3%	441	52.3%	466	52.3%	907
	1st fall in good academic standing	83.8%	707	80.8%	720	82.2%	1,427
	1st fall cumulative GPA	2.79	844	2.71	891	2.75	1,735
	2nd fall persisted	82.8%	699	81.8%	729	82.3%	1,428
	2nd fall completed 15 credits	52.3%	358	48.9%	346	50.6%	704
	2nd fall in good academic standing	90.8%	621	89.5%	633	90.2%	1,254
	2nd fall cumulative GPA	2.92	684	2.89	707	2.90	1,391
Other need-based aid	Headcount	100%	267	100%	119	100%	386
	1st fall completed 15 credits	51.3%	137	54.6%	65	52.3%	202
	1st fall in good academic standing	84.6%	226	85.7%	102	85.0%	328
	1st fall cumulative GPA	2.84	267	2.77	119	2.82	386
	2nd fall persisted	81.3%	217	78.2%	93	80.3%	310
	2nd fall completed 15 credits	48.1%	101	58.2%	53	51.2%	154
	2nd fall in good academic standing	89.5%	188	89.0%	81	89.4%	269
	2nd fall cumulative GPA	2.96	210	2.90	91	2.94	301
Non-need-based aid	Headcount	100%	834	100%	823	100%	1,657
	1st fall completed 15 credits	70.5%	588	67.0%	551	68.7%	1,139
	1st fall in good academic standing	92.4%	771	93.0%	765	92.7%	1,536
	1st fall cumulative GPA	3.22	834	3.23	823	3.22	1,657
	2nd fall persisted	90.5%	755	89.1%	733	89.8%	1,488
	2nd fall completed 15 credits	62.2%	465	62.5%	453	62.4%	918
	2nd fall in good academic standing	96.4%	720	96.4%	699	96.4%	1,419
	2nd fall cumulative GPA	3.26	747	3.27	725	3.27	1,472
No gift aid	Headcount	100%	913	100%	930	100%	1,843
	1st fall completed 15 credits	55.5%	507	52.2%	485	53.8%	992
	1st fall in good academic standing	83.9%	766	84.5%	785	84.2%	1,551
	1st fall cumulative GPA	2.75	913	2.79	929	2.77	1,842
	2nd fall persisted	81.7%	746	84.3%	784	83.0%	1,530
	2nd fall completed 15 credits	55.1%	403	56.3%	439	55.7%	842
	2nd fall in good academic standing	91.2%	667	91.4%	712	91.3%	1,379
	2nd fall cumulative GPA	2.88	731	2.87	780	2.87	1,511

		FA16		FA17		Overall	
No FAFSA	Headcount	100%	443	100%	501	100%	944
	1st fall completed 15 credits	54.0%	239	55.9%	280	55.0%	519
	1st fall in good academic standing	85.3%	378	84.0%	421	84.6%	799
	1st fall cumulative GPA	2.93	443	2.79	501	2.86	944
	2nd fall persisted	84.7%	375	84.0%	421	84.3%	796
	2nd fall completed 15 credits	55.5%	206	54.2%	225	54.8%	431
	2nd fall in good academic standing	93.8%	348	91.8%	381	92.7%	729
	2nd fall cumulative GPA	3.06	371	2.96	415	3.01	786

Table A 3: Funding Sources by Cohort Term and Financial Aid Group

		FA16		FA17		Overall	
Overall	Grants	33.4%	819	35.1%	839	34.2%	1,658
	All scholarships	77.6%	1,902	73.4%	1,754	75.5%	3,656
	- Need-based scholarships	41.6%	1,019	36.4%	870	39.0%	1,889
	Work study	11.1%	272	5.6%	135	8.4%	407
	All loans	65.0%	1,595	65.8%	1,573	65.4%	3,168
	- Parent and other loans	30.8%	756	33.6%	803	32.2%	1,559
	- Student loans	62.5%	1,532	63.5%	1,518	63.0%	3,050
	Limited income	Grants	95.5%	806	93.6%	834	94.5%
All scholarships		94.9%	801	91.2%	813	93.0%	1,614
- Need-based scholarships		89.2%	753	84.5%	753	86.8%	1,506
Work study		17.3%	146	6.4%	57	11.7%	203
All loans		62.4%	527	62.9%	560	62.7%	1,087
- Parent and other loans		16.7%	141	21.3%	190	19.1%	331
- Student loans		61.5%	519	61.2%	545	61.3%	1,064
Other need-based aid		Grants	4.9%	13	4.2%	5	4.7%
	All scholarships	100.0%	267	99.2%	118	99.7%	385
	- Need-based scholarships	99.6%	266	98.3%	117	99.2%	383
	Work study	14.6%	39	12.6%	15	14.0%	54
	All loans	77.5%	207	66.4%	79	74.1%	286
	- Parent and other loans	37.1%	99	39.5%	47	37.8%	146
	- Student loans	76.0%	203	64.7%	77	72.5%	280
	Non-need-based aid	Grants	-	-	-	-	-
All scholarships		100.0%	834	100.0%	823	100.0%	1,657
- Need-based scholarships		-	-	-	-	-	-
Work study		5.5%	46	4.1%	34	4.8%	80
All loans		43.4%	362	46.4%	382	44.9%	744
- Parent and other loans		23.3%	194	25.2%	207	24.2%	401
- Student loans		40.5%	338	44.7%	368	42.6%	706
No gift aid		Grants	-	-	-	-	-
	All scholarships	-	-	-	-	-	-
	- Need-based scholarships	-	-	-	-	-	-
	Work study	8.1%	41	5.2%	29	6.6%	70
	All loans	98.4%	499	98.9%	552	98.7%	1,051
	- Parent and other loans	63.5%	322	64.3%	359	63.9%	681
	- Student loans	93.1%	472	94.6%	528	93.9%	1,000
	No FAFSA	Grants	-	-	-	-	-
All scholarships		-	-	-	-	-	-
- Need-based scholarships		-	-	-	-	-	-

		FA16		FA17		Overall	
	Work study	-	-	-	-	-	-
	All loans	-	-	-	-	-	-
	- Parent and other loans	-	-	-	-	-	-
	- Student loans	-	-	-	-	-	-

Table A 4: Average² Dollars of Funding Sources by Cohort Term and Financial Aid Group

		FA16		FA17		Overall	
Overall	Cost of attendance	\$26,830	2,858	\$28,239	2,763	\$27,523	5,621
	AGI	\$120,237	2,756	\$124,266	2,641	\$122,209	5,397
	Expected family contribution	\$30,200	2,517	\$31,003	2,352	\$30,595	4,869
	Net cost ratio	.75	2,596	.76	2,607	.76	5,202
	Grants	\$7,409	819	\$6,996	839	\$7,200	1,658
	All scholarships	\$6,761	1,902	\$7,262	1,754	\$7,001	3,656
	- Need-based scholarships	\$5,614	1,019	\$6,555	870	\$6,047	1,889
	Work study	\$1,678	272	\$1,829	135	\$1,728	407
	All loans	\$11,913	1,595	\$12,836	1,573	\$12,371	3,168
	- Student loans	\$5,360	1,532	\$5,211	1,518	\$5,286	3,050
	- Parent and other loans	\$14,271	756	\$15,295	803	\$14,798	1,559
Limited income	Cost of attendance	\$26,859	844	\$28,436	891	\$27,669	1,735
	AGI	\$37,848	751	\$36,273	774	\$37,049	1,525
	Expected family contribution	\$1,408	519	\$1,310	482	\$1,358	1,001
	Net cost ratio	.42	351	.44	391	.43	743
	Grants	\$7,467	806	\$7,022	834	\$7,240	1,640
	All scholarships	\$8,992	801	\$10,223	813	\$9,612	1,614
	- Need-based scholarships	\$5,763	753	\$6,815	753	\$6,289	1,506
	Work study	\$1,619	146	\$1,873	57	\$1,690	203
	All loans	\$7,249	527	\$8,025	560	\$7,649	1,087
	- Student loans	\$5,487	519	\$5,293	545	\$5,387	1,064
	- Parent and other loans	\$6,899	141	\$8,471	190	\$7,801	331
Other need-based aid	Cost of attendance	\$26,465	267	\$27,763	119	\$26,865	386
	AGI	\$82,997	266	\$72,612	118	\$79,806	384
	Expected family contribution	\$9,740	266	\$10,652	118	\$10,021	384
	Net cost ratio	.70	186	.73	86	.71	272
	Grants	\$3,860	13	\$2,711	5	\$3,541	18
	All scholarships	\$7,832	267	\$7,438	118	\$7,711	385
	- Need-based scholarships	\$5,190	266	\$4,878	117	\$5,095	383
	Work study	\$1,815	39	\$1,958	15	\$1,855	54
	All loans	\$11,016	207	\$13,639	79	\$11,741	286
	- Student loans	\$5,755	203	\$5,443	77	\$5,669	280
	- Parent and other loans	\$11,233	99	\$14,009	47	\$12,127	146
Non-need-based aid	Cost of attendance	\$27,082	834	\$28,395	823	\$27,734	1,657
	AGI	\$158,206	833	\$159,703	822	\$158,950	1,655
	Expected family contribution	\$49,578	829	\$45,090	823	\$47,349	1,652
	Net cost ratio	.84	702	.85	698	.85	1,400
	Grants	-	-	-	-	-	-
	All scholarships	\$4,276	834	\$4,311	823	\$4,293	1,657
	- Need-based scholarships	-	-	-	-	-	-

² The average is calculated for only those that received the specific aid type, that is, any \$0 amounts have been removed from the analysis.

		FA16		FA17		Overall	
	Work study	\$1,772	46	\$1,879	34	\$1,817	80
	All loans	\$13,144	362	\$13,410	382	\$13,280	744
	- Student loans	\$5,191	338	\$5,104	368	\$5,146	706
	- Parent and other loans	\$15,482	194	\$15,672	207	\$15,580	401
	Cost of attendance	\$26,681	913	\$27,973	930	\$27,333	1,843
	AGI	\$164,556	906	\$172,889	927	\$168,770	1,833
	Expected family contribution	\$45,098	903	\$49,589	929	\$47,364	1,832
	Net cost ratio	1.00	913	1.00	930	1.00	1,843
No gift aid	Grants	-	-	-	-	-	-
	All scholarships	-	-	-	-	-	-
	- Need-based scholarships	-	-	-	-	-	-
	Work study	\$1,652	41	\$1,616	29	\$1,637	70
	All loans	\$16,316	499	\$17,205	552	\$16,783	1,051
	- Student loans	\$5,172	472	\$5,166	528	\$5,169	1,000
	- Parent and other loans	\$17,704	322	\$18,857	359	\$18,312	681
	No FAFSA	Cost of attendance	-	-	-	-	-
AGI		-	-	-	-	-	-
Expected family contribution		-	-	-	-	-	-
Net cost ratio		-	-	-	-	-	-
Grants		-	-	-	-	-	-
All scholarships		-	-	-	-	-	-
- Need-based scholarships		-	-	-	-	-	-
Work study		-	-	-	-	-	-
All loans		-	-	-	-	-	-
- Student loans		-	-	-	-	-	-
- Parent and other loans	-	-	-	-	-	-	

Table A 5: Second Fall Persistence Association with Net Cost Ratio

		B	S.E.	Wald	df	Sig.	Odds ratio
Limited income	Net cost ratio	-0.24	0.03	72.02	1.00	0.00	0.78
	CCHE index	0.03	0.01	28.45	1.00	0.00	1.03
	Constant	-0.98	0.70	1.97	1.00	0.16	0.38
	Cases included in analysis	1,715					
	Correctly predicted	81.8%					
	Nagelkerke R ²	0.11					
Other need-based aid	Net cost ratio	-0.25	0.11	5.54	1.00	0.02	0.78
	CCHE index	0.04	0.01	8.62	1.00	0.00	1.04
	Constant	-0.87	1.72	0.26	1.00	0.61	0.42
	Cases included in analysis	384					
	Correctly predicted	80.5%					
	Nagelkerke R ²	0.08					
Non-need-based aid	Net cost ratio	-0.28	0.09	10.36	1.00	0.00	0.76
	CCHE index	0.03	0.01	17.21	1.00	0.00	1.03
	Constant	0.95	1.29	0.54	1.00	0.46	2.58
	Cases included in analysis	1,656					
	Correctly predicted	89.8%					
	Nagelkerke R ²	0.051					

Appendix B. Taking Stock Survey Responses

Table B 1. Taking Stock Financial Concerns by Financial Aid Group

		Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree	Count Mean	
Limited income	College expenses are causing a strain on my family	4.1%	11.9%	13.7%	9.5%	25.9%	18.7%	16.1%	1,501	4.6
	I feel confident that I will be able to pay for next semester's tuition and fees	3.1%	5.6%	18.1%	7.4%	23.6%	29.3%	12.9%	1,506	4.8
	Financial obligations are interfering with my ability to focus on my academics	9.5%	22.3%	21.4%	11.9%	19.6%	10.0%	5.4%	1,510	3.6
	I often feel worried about paying for college	3.4%	7.8%	10.2%	5.5%	22.9%	26.9%	23.3%	1,508	5.1
	I have concerns about my ability to pay for my college education through graduation	3.9%	8.6%	13.1%	6.7%	22.8%	24.2%	20.7%	1,512	4.9
Other need-based aid	College expenses are causing a strain on my family	2.8%	9.4%	17.9%	6.0%	21.3%	21.0%	21.6%	319	4.8
	I feel confident that I will be able to pay for next semester's tuition and fees	5.4%	4.4%	19.9%	5.1%	24.1%	27.8%	13.3%	316	4.7
	Financial obligations are interfering with my ability to focus on my academics	8.8%	21.7%	30.5%	7.9%	18.6%	8.8%	3.8%	318	3.5
	I often feel worried about paying for college	3.2%	7.6%	14.6%	3.2%	22.5%	20.3%	28.8%	316	5.1
	I have concerns about my ability to pay for my college education through graduation	5.3%	8.8%	16.3%	4.7%	22.9%	24.5%	17.6%	319	4.7
Non-need-based aid	College expenses are causing a strain on my family	5.6%	16.9%	17.6%	10.3%	25.7%	14.3%	9.7%	1,528	4.1
	I feel confident that I will be able to pay for next semester's tuition and fees	1.3%	2.8%	9.6%	3.8%	17.4%	38.3%	26.9%	1,513	5.6
	Financial obligations are interfering with my ability to focus on my academics	14.9%	33.9%	24.4%	8.9%	9.6%	5.8%	2.5%	1,526	2.9
	I often feel worried about paying for college	6.4%	15.2%	15.7%	7.2%	23.9%	19.5%	12.2%	1,526	4.3
	I have concerns about my ability to pay for my college education through graduation	8.1%	19.3%	16.5%	8.3%	21.6%	16.6%	9.6%	1,517	4.0

		Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree	Count Mean	
No gift aid	College expenses are causing a strain on my family	6.5%	17.8%	17.7%	10.3%	21.9%	15.1%	10.8%	1,607	4.1
	I feel confident that I will be able to pay for next semester's tuition and fees	2.0%	3.2%	11.9%	5.3%	15.6%	39.2%	22.8%	1,589	5.4
	Financial obligations are interfering with my ability to focus on my academics	15.3%	31.0%	22.1%	10.2%	11.5%	7.4%	2.5%	1,594	3.0
	I often feel worried about paying for college	7.6%	15.7%	15.9%	8.2%	21.2%	18.6%	12.8%	1,601	4.3
	I have concerns about my ability to pay for my college education through graduation	8.5%	20.6%	18.3%	9.0%	18.6%	14.4%	10.6%	1,593	3.9
No FAFSA	College expenses are causing a strain on my family	14.4%	30.5%	19.1%	9.7%	15.9%	7.0%	3.4%	786	3.2
	I feel confident that I will be able to pay for next semester's tuition and fees	1.0%	1.3%	4.0%	2.6%	9.5%	40.3%	41.4%	780	6.0
	Financial obligations are interfering with my ability to focus on my academics	25.8%	39.6%	18.4%	5.8%	5.2%	3.7%	1.4%	782	2.4
	I often feel worried about paying for college	19.4%	29.9%	16.1%	6.0%	16.3%	8.0%	4.3%	785	3.1
	I have concerns about my ability to pay for my college education through graduation	21.8%	30.6%	17.7%	6.9%	11.6%	7.8%	3.6%	779	2.9