



# CO Challenge Institutional Goals

The purpose of this report is to track CO Challenge Scholarship recipients’ progress towards institutional goals set by the CO Challenge Counselors. The institutional goals are presented in comparison to the overall rates (across FA11-FA14 cohorts) for each program; however, information for each program by cohort is provided in appendixes.

## Goals

Success goals are set around the following eight metrics:

- ✚ Fall to Fall Retention for First-Year Students to the Second-Year
- ✚ Graduation Rates Beginning with the FA13 Cohort
- ✚ First-Year Cumulative GPA
- ✚ Percent of Students Reaching Sophomore Status by Second Fall
- ✚ Percent of Students Deciding a Major by 45 Credits
- ✚ FAFSA Completion by Priority Date and Extended Data
- ✚ Math & Composition Requirement met within First-Year

These goals are determined by CO Challenge Counselors, but are informed by prior data analysis completed by IRPE that accounted for differences in students’ academic preparation/demographics. A discussion of this methodology and student demographics by program and cohort is available in Appendix G. These metrics are selected because they have been shown by prior research to be positively associated with graduation at CSU.

## Retention to Second-Fall

Table 1 displays the overall (across all four cohorts) second-fall retention rate for each of the CO challenge programs compared to their respective goal level. The retention rate and cohort size for each fall cohort is available in Appendix A.

Table 1.

FA11-FA14 CO Challenge Second-Fall Retention Rate Compared to Goal Rate<sup>1</sup>

|                                     | Program Rate | Goal | PP Difference |
|-------------------------------------|--------------|------|---------------|
| Alliance (237)                      | 83.9%        | 82%  | 1.90          |
| Daniels Fund (115)                  | 94.8%        | 90%  | 4.78          |
| GEAR UP (25)                        | 88.0%        | 82%  | 6.00          |
| Denver Scholarship Foundation (234) | 82.1%        | 84%  | -1.95         |

<sup>1</sup>The goal rate is determined by Colorado Challenge Counselors and informed by CSU’s data and office of Institutional Research, Planning and Effectiveness

As shown in table 2, three of the four scholarship programs have a retention rate that exceeds the goal set by counselors. For instance, the overall retention rate for Alliance students is 83.9%, which is 1.9 percentage points higher than the goal rate of 82%. GEAR UP students, who have an overall retention rate that is 6 percentage points higher than their goal rate, are also considerably outperforming the goal set for them. In contrast, the Denver Scholarship Foundation has an overall rate of 82.1%, which is 1.95 percentage points lower than the goal rate of 84%.



## Graduation Rates

Graduation rates will be included in this report when the majority of cohorts have a four year graduation rate to report.

## First-Year Cumulative GPA

Table 2 displays the average (across all four cohorts) first-year cumulative GPA for each of the CO challenge programs compared to their respective goal. The average cumulative GPA for each cohort is available in Appendix B.

Table 2.

FA11-FA14 CO Challenge First-Year Cumulative GPA Compared to Goal GPA<sup>1</sup>

|                                     | Program Participants' GPA | Goal GPA | Difference |
|-------------------------------------|---------------------------|----------|------------|
| Alliance (198)                      | 2.86                      | 2.95     | -0.09      |
| Daniels Fund (109)                  | 3.08                      | 3.10     | -0.02      |
| GEAR UP (22)                        | 2.89                      | 2.95     | -0.06      |
| Denver Scholarship Foundation (192) | 2.77                      | 2.85     | -0.08      |

<sup>1</sup>The goal rate is determined by Colorado Challenge Counselors and informed by CSU's data and office of Institutional Research, Planning and Effectiveness

The first-year cumulative GPA is slightly lower than the goal GPA for all groups over the four cohorts. For instance, Denver Scholarship Foundation Students have an average first-year GPA that is 2.77, but the goal GPA is .08 grade points higher at 2.85. It should be noted (Appendix B) that the FA14 cohorts for Alliance and Daniels Fund both have first-year GPA's that exceed the goal GPA, while the other three cohorts are the ones impacting the overall average to be lower than the goal level.

## Sophomore Status by Second-Fall

Table 3 displays the observed, overall (across all four cohorts) percent of students who achieve sophomore status (complete 30 credits) by the start of their second-fall semester for each of the CO challenge programs compared to their respective goal. The percent of each cohort with sophomore status by their second-fall semester is available in Appendix C.

Table 3.

FA11-FA14 CO Challenge<sup>1</sup> Sophomore Status Rate Compared to Goal Rate<sup>2</sup>

|                                     | Program Rate | Goal Rate | PP Difference |
|-------------------------------------|--------------|-----------|---------------|
| Alliance (233)                      | 65.7%        | 65%       | 0.67          |
| Daniels Fund (104)                  | 86.5%        | 85%       | 1.54          |
| GEAR UP (23)                        | 73.9%        | 65%       | 8.91          |
| Denver Scholarship Foundation (225) | 56.9%        | 60%       | -3.11         |

<sup>1</sup>Only CO Challenge students who start as new freshmen (excludes transfer) are included in this outcome

<sup>2</sup>The goal rate is determined by Colorado Challenge Counselors and informed by CSU's data and office of Institutional Research, Planning and Effectiveness

As shown in table 3, three of the four scholarship programs have a second-fall sophomore status rate that exceeds their goal. For instance, 65.7% of Alliance students who start as new freshmen obtain sophomore status by the start of their second fall semester. This rate is about half of a percentage point higher than the goal rate set by CO Challenge



Counselors. In contrast, Denver Scholarship Foundation students obtain sophomore status at a rate that is about 3 percentage points lower than the goal.

## Decision of Major by 45 Credits

Table 4 displays the overall (across all four cohorts) percent of students who declare a major by the time that they earn 45 credits for each of the CO challenge programs compared to their respective goal. The percent of each cohort who declare a major by 45 credits is available in Appendix D. Please note that these rates are determined only among CO Challenge students who persist through 45 credits.

Table 4.

FA11-FA14 CO Challenge Rate<sup>1</sup> of Declaring a Major by 45 Credits

|                                     | Program Rate | Goal Rate <sup>2</sup> | PP Difference |
|-------------------------------------|--------------|------------------------|---------------|
| Alliance (134)                      | 97.0%        | 90%                    | 7.0           |
| Daniels fund (75)                   | 100.0%       | 90%                    | 10.0          |
| GEAR UP (16)                        | 93.8%        | 90%                    | 3.8           |
| Denver Scholarship Foundation (144) | 98.6%        | 90%                    | 8.6           |

<sup>1</sup>Only includes students who persist to 45 credits

<sup>2</sup>The goal rate is determined by Colorado Challenge Counselors

All four scholarship programs have a rate that exceeds the goal set by CO Challenge Counselors. For instance, among the Alliance students who persist to 45 credits 97% of them have a declared major. It is a very positive finding that nearly all of the students who persist to 45 credits have declared a major.

## Filing a FAFSA by Priority and Extended Dates

Tables 5 and 6 display the overall (across all four cohorts) percent of students who file their FAFSA by priority (March 1<sup>st</sup>) and extended (April 1<sup>st</sup>) deadlines. The percent of each cohort who file by the deadlines is available in Appendix E. Please note that these rates are determined among CO Challenge students who are enrolled in the aid year's fall semester.

Table 5.

FA11-FA14 CO Challenge<sup>1</sup> Rate of FAFSA Filing by March 1st

|                                     | Program Rate | Goal Rate <sup>2</sup> | PP Difference |
|-------------------------------------|--------------|------------------------|---------------|
| Alliance (529)                      | 65.0%        | 60%                    | 5.0           |
| Daniels Fund (275)                  | 82.2%        | 98%                    | -15.8         |
| GEAR UP (62)                        | 93.5%        | 60%                    | 33.5          |
| Denver Scholarship Foundation (526) | 76.4%        | 98%                    | -21.6         |

<sup>1</sup>Includes both new and continuing students enrolled in the aid year's fall semester

<sup>2</sup>The goal rate is determined by Colorado Challenge Counselors

As shown in table 5, two of the four scholarship programs have a rate of FAFSA filing prior to March 1<sup>st</sup> that exceeds their goal. For instance, 93.5% of GEAR UP students filed their FAFSA prior to March 1<sup>st</sup>. This rate is about sixteen percentage points higher than the goal rate set by CO Challenge Counselors. In contrast, the percent of Denver Scholarship Foundation students that file by March 1<sup>st</sup> is about 22 percentage points lower than the goal.



Table 6.

FA11-FA14 CO Challenge<sup>1</sup> Rate of FAFSA Filing by April 1st

|                                     | Program Rate | Goal Rate <sup>2</sup> | PP Difference |
|-------------------------------------|--------------|------------------------|---------------|
| Alliance (529)                      | 83.6%        | 85%                    | -1.4          |
| Daniels Fund (275)                  | 97.5%        | 98%                    | -0.5          |
| GEAR UP (62)                        | 100.0%       | 85%                    | 15.0          |
| Denver Scholarship Foundation (526) | 97.0%        | 98%                    | -1.0          |

<sup>1</sup>Includes both new and continuing students enrolled in the aid year's fall semester

<sup>2</sup>The goal rate is determined by Colorado Challenge Counselors

As shown in table 6, GEAR UP is the only CO Challenge program to have a rate of FAFSA filing prior to April 1<sup>st</sup> that exceeds the specified goal. For instance, 83.6% of Alliance students filed their FAFSA prior to April 1<sup>st</sup>. This rate is about one and half percentage points lower than the goal rate set by CO Challenge Counselors.

## Math and Composition Completion in First-Year

Table 7 displays the overall (across all four cohorts) math and composition first-year completion rate for each of the CO challenge programs compared to the goal set by counselors. The math and / or composition completion rate for each cohort is available in Appendix E.

Table 7.

FA11-FA14 CO Challenge Math and Composition Completion Rate Compared to Goal Rate<sup>1</sup>

|                                     | Program Rate | Goal Rate | PP Difference |
|-------------------------------------|--------------|-----------|---------------|
| Alliance (237)                      | 78.9%        | 81%       | -2.10         |
| Daniels Fund (115)                  | 84.3%        | 83%       | 1.35          |
| GEAR UP (25)                        | 92.0%        | 81%       | 11.00         |
| Denver Scholarship Foundation (234) | 81.6%        | 81%       | 0.62          |

<sup>1</sup>The goal rate is determined by Colorado Challenge Counselors and informed by CSU's data and office of Institutional Research, Planning and Effectiveness

As shown in table 7, three of the four scholarship programs have a first-year math and composition completion rate that exceeds the goal set by counselors. For instance, 92% of GEAR UP students complete math and composition credits within their first year which is 11 percentage points higher than the goal completion rate. In contrast, Alliance students complete math and composition within the first year at a rate that is about 2 percentage points lower than the goal completion rate.



## Conclusions

Across most of the goals the majority (3 of the 4) of CO Challenge Scholarship programs meet or exceed the goal levels set by the counselors. However, there are some notable trends by program and goal that should be considered when evaluating the CO Challenge Programs.

The GEAR UP program stands out as exceeding the goal level set by counselors in a majority of the goals. For instance, GEAR UP students surpass the goals by a substantial number of percentage points in terms of retention, reaching sophomore status by the second year, filing the FAFSA by priority and extended deadlines, and completing at least one credit of math and composition in the first year. However, the GEAR UP program is small (25 students across all four cohorts) and could experience volatility in their rates. Alliance students are also performing at or above the set goal rate with the math and composition goal as the one exception.

The Denver Scholarship Foundation students are falling short of the goals set by counselors for the majority of the goal metrics. For instance, Denver Scholarship Foundation students are not meeting the retention rate, sophomore status rate, or FAFSA filing by priority and extended deadline rates that are set by the counselors.

All programs have room for improvement in terms of the first year GPA because none of the four programs reached the goal GPA set by counselors. Additionally, all of the programs (besides GEAR UP) should aim to improve the FAFSA filing rates by specified deadlines. In contrast, all of the programs are exceeding the goal in terms of the rate of students who declare a major by 45 credits.

## Appendix A: Second-Fall Retention

The table below displays the cohort size and second-fall retention rate for CO Challenge programs in FA11 through FA14.

FA11 through FA14 CO Challenge Cohorts' Second-Fall Retention Rates

|                               | FA11        |                | FA12        |                | FA13        |                | FA14        |                | Overall (FA11-FA14) |                |
|-------------------------------|-------------|----------------|-------------|----------------|-------------|----------------|-------------|----------------|---------------------|----------------|
|                               | Cohort Size | Retention Rate | Cohort Size | Retention Rate | Cohort Size | Retention Rate | Cohort Size | Retention Rate | Cohort Size         | Retention Rate |
| Alliance                      | 73          | 84%            | 56          | 77%            | 61          | 92%            | 47          | 83%            | 237                 | 84%            |
| Daniels Fund                  | 34          | 94%            | 29          | 90%            | 28          | 96%            | 24          | 100%           | 115                 | 95%            |
| GEAR UP                       | 10          | 80%            | 6           | 100%           | 4           | 75%            | 5           | 100%           | 25                  | 88%            |
| Denver Scholarship Foundation | 69          | 78%            | 65          | 77%            | 64          | 86%            | 36          | 92%            | 234                 | 82%            |

Please note that the headcount is not unduplicated. If a student received two of the three scholarships he/she is counted in both groups

A summary of findings are as follows:

- ✚ Across three of the four programs (excluding GEAR UP), the retention rate in FA13 is higher than FA11 and FA12. In FA14 the retention rate increased for all of the programs besides Alliance which has a decrease in the FA14 retention rate compared to FA13. However, the FA14 Alliance retention rate still exceeds the FA12 retention rate despite it being slightly lower than the FA11 rate.
- ✚ Across all four cohorts, Daniels Fund has the highest retention rates and Denver Scholarship Foundation has the lowest retention rates. Considering the average index of each program, these retention trends are not surprising.
- ✚ Please note that the volatility in rates across cohorts is due to the smaller sample size. For instance, when cohort sizes are less than 100 a change of one student is equivalent to a one percentage point change.



## Appendix B: First-Year Cumulative GPA

The table below displays the average first-year cumulative GPA for students in each of the CO Challenge scholarship programs. Please note that the data only includes students who are retained to the start of their second year.

First Year Cumulative GPA for CO Challenge Cohort

|                               | FA11 | FA12 | FA13 | FA14 | Overall |
|-------------------------------|------|------|------|------|---------|
| Alliance                      | 2.83 | 2.70 | 2.91 | 3.03 | 2.86    |
| Daniels fund                  | 3.04 | 3.15 | 3.02 | 3.12 | 3.08    |
| GEAR UP                       | 2.94 | 2.83 | 3.04 | 2.81 | 2.89    |
| Denver Scholarship Foundation | 2.62 | 2.86 | 2.90 | 2.63 | 2.77    |

A summary of findings are as follows:

- ✚ Among Alliance students, the first-year cumulative GPA is highest in FA14 and lowest in FA12. In FA14, the Alliance GPA exceeds the goal GPA for the first time among these four cohorts.
- ✚ Among Daniels Fund students, the first-year cumulative GPA is highest in FA12 and lowest in FA13. In FA14 and FA12, the Daniels Fund GPA exceeds the goal GPA.
- ✚ Among GEAR UP students, the first-year cumulative GPA is highest in FA13 and lowest in FA14. In FA13, GEAR UP GPA exceeds the goal GPA.
- ✚ Among Denver Scholarship Foundation students, the first-year cumulative GPA is highest in FA13 and lowest in FA11. In FA14 and FA12, the Daniels Fund GPA exceeds the goal GPA.
- ✚ Across most cohorts, the first-year cumulative GPA is highest for Daniels Fund Students (GEAR UP is slightly higher in FA13). The lowest first-year cumulative GPA alternates between Alliance and Denver Scholarship Foundation students across the four cohorts.



# Appendix C: Sophomore Status by Second-Fall

The table below displays the percent of each program’s cohort that obtain sophomore status by the start of the second-fall semester. Please note that this analysis excludes the small number of transfer students in each of the scholarship groups and only includes students who are retained to the start of their second year.

Percent of CO Challenge Cohort with Sophomore Status by 2nd Fall

|                               | FA11 | FA12 | FA13 | FA14 | Overall |
|-------------------------------|------|------|------|------|---------|
| Alliance                      | 59%  | 61%  | 72%  | 74%  | 66%     |
| Daniels Fund                  | 93%  | 82%  | 79%  | 91%  | 87%     |
| GEAR UP                       | 80%  | 83%  | 67%  | 50%  | 74%     |
| Denver Scholarship Foundation | 49%  | 51%  | 65%  | 68%  | 57%     |

A summary of findings are as follows:

- Among Alliance and Denver Scholarship Foundation students, the percent of the cohort that reach sophomore status increases from FA11 to FA14. Denver Scholarship Foundation is the program with an overall rate that does not to meet the goal rate set by counselors; however, the FA13 and FA14 cohorts have rates that exceed this goal.
- GEAR UP is the only program to have a downward trend in the percent of the cohort obtaining sophomore status by the start of their second-fall semester. Despite having an overall rate that exceeds the goal, the FA14 cohort of GEAR UP students did not meet the goal rate set by counselors. All other GEARP UP cohorts have a rate above the goal.
- Daniels Fund has a downward trend from FA11 to FA13; however, in FA14 the program’s rate increases to approximately the rate in FA11. The FA12 and FA13 Daniels Fund cohorts have rates that fall below the goal rate.





# Appendix D: Decision of Major by 45 Credits

The table below displays the percent of each program’s cohort that have declared a major by the time they have earned 45 credits.

Percent of CO Challenge Cohort<sup>1</sup> with a Declared Major by 45 Credits

|                               | FA11 | FA12 | FA13 | Overall |
|-------------------------------|------|------|------|---------|
| Alliance                      | 94%  | 97%  | 100% | 97%     |
| Daniels Fund                  | 100% | 100% | 100% | 100%    |
| GEAR UP                       | 86%  | 100% | 100% | 94%     |
| Denver Scholarship Foundation | 98%  | 100% | 98%  | 99%     |

<sup>1</sup>Only includes students who persist to 45 credits

A summary of findings are as follows:

- All programs exceeded the goal set by counselors and there is little variation in the rate of undeclared students once a student reaches 45 credits.



## Appendix E: Filing a FAFSA by Priority and Extended Dates

The tables below display the percent of each program's students who file their FAFSA by the priority and extended dates. Please note that this analysis includes all new and continuing program participants who are enrolled at CSU during the fall semester of the specified aid year.

Percent of CO Challenge Students<sup>1</sup> who File their FAFSA by March 1st

|                               | 2011-12 | 2012-13 | 2013-14 | 2014-15 |
|-------------------------------|---------|---------|---------|---------|
| Alliance                      | 77%     | 75%     | 58%     | 60%     |
| Daniels Fund                  | 82%     | 93%     | 79%     | 78%     |
| GEAR UP                       | 100%    | 100%    | 94%     | 86%     |
| Denver Scholarship Foundation | 93%     | 78%     | 77%     | 69%     |

<sup>1</sup>Includes both new and continuing students

Percent of CO Challenge Students<sup>1</sup> who File their FAFSA by April 1st

|                               | 2011-12 | 2012-13 | 2013-14 | 2014-15 |
|-------------------------------|---------|---------|---------|---------|
| Alliance                      | 86%     | 81%     | 84%     | 84%     |
| Daniels Fund                  | 97%     | 100%    | 96%     | 97%     |
| GEAR UP                       | 100%    | 100%    | 100%    | 100%    |
| Denver Scholarship Foundation | 99%     | 97%     | 97%     | 96%     |

<sup>1</sup>Includes both new and continuing students

A summary of findings are as follows:

- ✚ The GEAR UP program has the largest proportion of students who are filing their FAFSA prior to the deadlines.
- ✚ The Alliance program has the smallest proportion of students who are filing their FAFSA prior to the deadlines.
- ✚ Over the four cohorts, all of the scholarship programs have a downward trend in the percent of students who file their FAFSA by the priority deadline.

## Appendix F: First-Year Math and / or Composition Completion

The table below displays the percent of each program's cohort that completed at least one credit of math or composition as well as both math and composition.

Percent of CO Challenge Cohort with at least one Credit of Math and/or Composition Earned in the First Year

|                               | FA11 |      |      | FA12 |      |      | FA13 |      |      | FA14 |      |      | Overall |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------|------|------|
|                               | Math | Comp | Both | Math | Comp | Both | Math | Comp | Both | Math | Comp | Both | Math    | Comp | Both |
| Alliance                      | 89%  | 82%  | 79%  | 79%  | 79%  | 73%  | 93%  | 93%  | 90%  | 81%  | 83%  | 70%  | 86%     | 84%  | 79%  |
| Daniels Fund                  | 97%  | 88%  | 85%  | 93%  | 79%  | 72%  | 89%  | 100% | 89%  | 96%  | 92%  | 92%  | 94%     | 90%  | 84%  |
| GEAR UP                       | 90%  | 100% | 90%  | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 100% | 80%  | 92%     | 100% | 92%  |
| Denver Scholarship Foundation | 90%  | 84%  | 80%  | 89%  | 94%  | 85%  | 84%  | 94%  | 83%  | 81%  | 92%  | 78%  | 87%     | 91%  | 82%  |

A summary of findings are as follows:

- ✚ Among Alliance students, the percent of the cohort that complete math and / or composition increased in FA13 compared to both FA11 and FA12 but decreased in FA14.
- ✚ Among Daniels Fund students, the percent of the cohort that complete both math and composition is highest in FA11 and lowest in FA14.
- ✚ Among GEAR UP students, the percent of the cohort that complete math and/or composition is higher than all other programs; however, the math completion rate is lowest in FA14.
- ✚ Among Denver Scholarship Foundation students, the percent of the cohort that complete both math and composition is highest in FA12 and lowest in FA14. The proportion of the cohort completing math has decreased each year and the percent of the cohort completing composition has remained relatively high and stable from FA12 to FA14.

# Appendix G: Multivariate Regression Results

The demographics of CO Challenge program participants are dramatically different than CSU's overall population. The demographics of students in the scholarship programs by cohort are in the table below.

FA11 through FA14 CO Challenge Cohort Demographics by Scholarship Group

|                    | First Generation | Pell Recipient | Minority | Female | Resident | Transfer | Average Index |
|--------------------|------------------|----------------|----------|--------|----------|----------|---------------|
| Alliance (229)     | 72%              | 66%            | 66%      | 57%    | 100%     | 2%       | 113           |
| FA11 (71)          | 74%              | 68%            | 53%      | 58%    | 100%     | 4%       | 114           |
| FA12 (51)          | 80%              | 64%            | 66%      | 54%    | 100%     | 0%       | 111           |
| FA13 (60)          | 66%              | 67%            | 82%      | 62%    | 100%     | 0%       | 113           |
| FA14 (47)          | 68%              | 64%            | 64%      | 51%    | 100%     | 2%       | 116           |
| Daniels Fund (109) | 75%              | 91%            | 49%      | 50%    | 93%      | 10%      | 117           |
| FA11 (31)          | 76%              | 97%            | 41%      | 47%    | 91%      | 12%      | 119           |
| FA12 (27)          | 83%              | 83%            | 55%      | 52%    | 93%      | 3%       | 117           |
| FA13 (27)          | 68%              | 93%            | 54%      | 54%    | 96%      | 14%      | 115           |
| FA14 (24)          | 71%              | 92%            | 46%      | 50%    | 92%      | 8%       | 117           |
| DSF (225)          | 73%              | 86%            | 82%      | 62%    | 100%     | 4%       | 108           |
| FA11 (65)          | 80%              | 88%            | 77%      | 62%    | 100%     | 6%       | 109           |
| FA12 (64)          | 62%              | 86%            | 85%      | 62%    | 100%     | 3%       | 107           |
| FA13 (61)          | 70%              | 91%            | 84%      | 64%    | 100%     | 2%       | 108           |
| FA14 (35)          | 83%              | 72%            | 83%      | 61%    | 100%     | 6%       | 109           |
| GEAR UP (23)       | 88%              | 96%            | 80%      | 64%    | 100%     | 8%       | 114           |
| FA11 (8)           | 100%             | 100%           | 90%      | 80%    | 100%     | 0%       | 114           |
| FA12 (6)           | 83%              | 100%           | 100%     | 17%    | 100%     | 0%       | 112           |
| FA13 (4)           | 100%             | 100%           | 25%      | 50%    | 100%     | 25%      | 112           |
| FA14 (5)           | 60%              | 80%            | 80%      | 100%   | 100%     | 20%      | 116           |

The proportion of CO challenge program participants with first generation, Pell recipient or minority status is considerably higher than CSU's overall proportional representation. The average index of Alliance and Denver Scholarship Foundation students is lower than CSU's overall average, but the average index of Daniels Fund students is higher.

The goals set by CO Challenge counselors are informed by analysis completed in Spring 2015. Multivariate regression models are run on the FA11-FA13 full-time, first-time freshman cohorts to determine the predicted probability (or predicted GPA) of success for students with characteristics similar to students in each of the three CO Challenge programs.

The regression models assume the following student characteristics for the programs' reference levels:

- ✚ Alliance: First generation, Pell recipient, Minority, Female, CO resident, and an index of 113
- ✚ Daniels Fund: First generation, Pell recipient, Non-Minority, Female, CO resident, and an index of 117
- ✚ DSF: First generation, Pell recipient, Minority, Female, CO resident, and an index of 108



The table below displays the regression coefficients that are used to obtain the reference level for each objective outcome across the CO Challenge scholarship program populations.

Multivariate Regression Results: Reference Levels for Objective Outcomes

|                           | Retained <sup>1</sup>                | Math and Comp <sup>2</sup> | Sophomore Status <sup>3</sup> | GPA <sup>4</sup> |
|---------------------------|--------------------------------------|----------------------------|-------------------------------|------------------|
|                           | Regression Coefficients <sup>5</sup> |                            |                               |                  |
| CO Resident               | 0.450*                               | 0.337*                     | 0.384*                        | 0.051*           |
| Minority                  | 0.106                                | -0.151*                    | 0.107*                        | -0.034*          |
| Female                    | -0.067                               | 0.117*                     | 0.221*                        | 0.204*           |
| Index                     | 0.027*                               | 0.016*                     | 0.078*                        | 0.025*           |
| First Generation          | -0.446*                              | -0.278*                    | -0.225*                       | -0.058*          |
| Pell Recipient            | -0.238*                              | -0.170*                    | -0.144*                       | -0.022           |
| Observations <sup>6</sup> | 13,078                               | 13,078                     | 13,078                        | 11,225           |
| Model Degrees Freedom     | 6                                    | 6                          | 6                             | 6                |
| R <sup>2,7</sup>          | 0.0273                               | 0.014                      | 0.1222                        | 0.2332           |

<sup>1</sup>Logistic regression model with second-fall retention as the dependent variable.

<sup>2</sup>Logistic regression model with first-year math and composition completion as the dependent variable.

<sup>3</sup>Logistic regression model with obtaining sophomore status at the start of second-fall as the dependent variable.

<sup>4</sup>Linear regression model with first-year cumulative GPA as the dependent variable.

<sup>5</sup>\* $p < .05$

<sup>6</sup>Includes new, full-time freshmen who started in FA11, FA12, & FA13. For the model predicting GPA, only students who persisted to second-fall are included.

<sup>7</sup>A pseudo R<sup>2</sup> for the logistic regression models.