Capstone Impact Story

Fellows: Christos Giannoulis and Nichole Jackson Cohort 2 CTE - Valencia College

Optimal Program Conditions for Completing College Career Pathways

SYNOPSIS

Valencia College's Strategic Impact Plan includes a College Career Credentials Goal that by 2030 students will earn 12,000 high-quality workforce credentials each year with 50% of those attained by Hispanic students and 25% by Black students. Cohort 2 Strategic Data Project - Career and Technical Education (SDP-CTE) Fellows, Christos Giannoulis and Nichole Jackson partnered with the Career and Workforce office at Valencia to present a clear set of completion metrics by College Career Pathways, student characteristics, and program attributes.

For First Time at Valencia (FTAV) students the most recent 5-year completion rate of any Valencia college-credit Career and Technical (CTE) credential was 39%. While students with a first-term GPA less than 2.0 had the largest disparity in completion rates compared to higher GPAs, 29% of the FTAV students did not complete a credential or transfer even though they had a first-term GPA 2.0 or above. FTAV students who completed short certificate(s) but did not receive a degree had a higher average wage return of 26% ($7,842) one year after their certificate award. This increase is important since the average wage earnings of those students before their studies was just the minimum living wage. Program faculty, deans, and senior leadership can determine program changes to achieve more equitable student outcomes as a result of this Strategic Data Project producing completion rates (of any CTE degree, or certificate, including short or long-term technical certificates) according to program attributes, student characteristics, and earnings.

PROBLEM DESCRIPTION

Valencia College has set forth goals as part of its strategic impact plan for the next five years with improved results expected in graduation and career credentials by 2030. The goals for graduation are represented in percentages of attainment by enrolled students while the Career and Technical Education (CTE) credential goals are to increase the number of earned high quality credentials. Without a dedicated measure of CTE progression and completion, the efforts to improve programs or increase student success are limited.

At Valencia, CTE completion counts proportioned by race/ethnicity are close to representative of the proportion of college enrollments and similar to the regional population but are not reported as completion rates that track all students enrolling who want to earn CTE credentials. By considering student characteristics, program attributes, and labor market demand indicators which predict completions this study can improve the narrative about who earns high quality CTE credentials and how.

INTERVENTION

Cohort 2 SDP-CTE Fellows, Christos Giannoulis, Senior Institutional Research Analyst in Analytics and Reporting and Nichole Jackson, Director of Learning Assessment in Academic Affairs, partnered to lead analytic efforts which would provide the collaborators of CTE-Programs:

- An estimate of the effects of the program structure on student outcomes such as retention, persistence and graduation using quasi-experimental method(s)
- An understanding of the variation in program structure effects across different CTE programs within different College Career Pathways through data visualization
- A model of visual descriptive and inferential statistics that may be replicated for other programs and policies at the College to inform decision making and planning

Data Preparation

This study examined 5 years of institutional data for six cohorts of students entering Valencia seeking any CTE bachelor's degree, associate degree, long-term technical certificate, or short-term technical certificate (i.e. students that entered in the fall of Academic Years 2010-11, 2011-12, 2012-13, 2013-2014, 2014-2015, 2015-2016). These students (n=20,874) were First Time at Valencia (FTAV) with all of the following student level variables: race, gender, age, First generation in college, Pell eligible, student modality, admission status, first-term GPA, full-time/part-time, and intended program. Additional data to locate students enrolled in participating US Higher Education institutions were included from National Student Clearinghouse Student Tracker reports.

Valencia's CTE Programs were grouped within the 8 College Career Pathways. Program structure data were collected through surveys completed by deans, faculty program chairs, and program advisors. The CTE Program Conditions Survey was modeled after Florida's Pathways Institute adoption of the Community College Resource Center's (CCRC) Scale of Adoption Assessment (CCRC, 2017) and co-designed with the deans in the Workforce Team. Programs were designated as having a cohort structure and course sequence structure was defined as—

- Flexible: Most Program courses can be taken in any sequence, but General Education prerequisites (e.g. math requirements) create limitations
- Guided: Introductory courses can be taken without limitation, but a sizable number of intermediate and advanced courses must be taken in sequence
- Prescribed: Courses are taken in a standard sequence with a few exceptions.

At the end of the survey, deans were contacted to confirm the designations for any missing information, and the results were combined according to a prioritizing protocol. Designations were made selecting the response from 1) the program chair(s), 2) any dean if no program chair completed the survey, and 3) non-chair faculty or program advisors when the dean had also not completed the survey; where there were discrepancies between program chairs or at other levels of this protocol the more open variable was selected for (e.g. the most flexible or "no cohort" over "cohort").

To include labor market data, aggregate reports of student earnings in the year prior to completion, earnings in year of completion, and earnings in year after completion were obtained from the Florida Education and Training Placement Information Program (FETPIP). The reports include average quarterly earnings (annualized) for students found employed any full quarter by their College Career Pathway, short-term Technical Certificates (less than 17 credits), long-term, Technical Certificates (18 up to 42 credits), number of certificates, and A.S. of A.A. degree earned. Earnings disaggregated by ethnicity and gender were included when more than 10 students were found in any certificate, degree, or College Career Pathway.

Data Methodology

When all data was collected the final analyses employed counterfactuals (Collins et al., 2004) along with the heuristic likelihood matching algorithm within Bayesian Networks (Conrady & Jouffe, 2015). Likelihood Matching makes distributions of the subpopulations compared - including multivariate distributions - similar to each other. With likelihood matching the underlying observations are not matched directly. Rather, the distributions of the relevant nodes are matched based on the joint probability distribution derived from Bayesian network.

With this algorithm, casual conclusions can be measured by manipulating the probability distribution of each program structure (flexible, guided, prescribed), while keeping the probability distribution of all ascending nodes of student socio-economic characteristics constant, and evaluating the impact of the change in each type of program structure on the probability distribution of students who have "completed first" versus students who have "transferred first" and / or students who have stopped their studies.

This methodology allows all background characteristics of students provided to be balanced through Likelihood Matching in a way that each type of program structure is independent of all these characteristics. With that, each type of program structure is considered as a deliberate intervention, and the changes to the outcome variable of graduation as the causal effect of changing the Intervention variables.

Earnings data were retrieved from Florida Education and Training Placement Information Program (FETPIP) as average quarterly earnings (annualized) for those students found employed any full quarter in a non-governmental job in Florida. Earnings from 10 years were adjusted by Consumer Price Index (CPI) to buying power in 2022 and used to calculate the percent change from the year prior to earning a college-credit credential to the year after earning the credential.

Findings

The highest completion rate from the most recent Academic Year in the study (2015-2016) was 39%. This rate includes students completing any credential (any CTE degree, or certificate, including short or long-term technical certificates) and not necessarily the program they intended. Of all CTE seeking students that entered in the fall of Academic Years 2010-11, 2011-12, 2012-13, 2013-2014, 2014-2015, 2015-2016, 29% did not complete any credential (i.e. and CTE degree, or certificate, or AA degree) or transfer even though they had a first-term GPA 2.0 or above. Results from further analyses about the students' intended credential and findings by College Career Pathway, student characteristics, and program attributes can inform program changes:

- Only 3 in 10 students who earn one or more college-credit CTE credentials along a pathway (e.g., embedded Technical Certificates) complete their selected degree at Valencia.
- Nearly 3 in 10 of all FTAV students did not complete any credential or transfer even though they had GPA above 2.0.
- Nearly 2 in 5 of all FTAV students who earn credits *and* maintain a 2.0 or higher GPA in their first term at Valencia complete no college-level credential in any institution.

- There are disparate completion rates by High School GPA for all except two of the College Career Pathways and the highest disparities in completion rates in the College Career Pathways were not by race.
- There are disparate completion rates by Pell eligibility for credentials in the Health Sciences (HS); non-Pell-eligible have higher completion rates.
- There are disparate completion rates by gender for credentials in Arts, Media, and Communication (AMC), Law Public, Safety and Security (LPSS), Information Technology (IT), and Engineering Technology (ET); females have higher completion rates.
- There are disparate completion rates by age for credentials in Business Management and Administration (BMA); students in higher age groups have higher completion rates than lower age groups.
- There are disparate transfer rates by age for credentials in Hospitality and Culinary (HC); students in higher age groups transfer before completion at rates higher than lower age groups.
- A counterfactual analysis combined with a heuristic likelihood-matching algorithm within Bayesian networks projects that if 100% of FTAV Students seeking CTE-programs had the opportunity to matriculate with flexible structure, the rate of students who do not complete or transfer would decrease from 44.29 % to 37.37%.
- Adjusting wages to purchasing power by 2022, FTAV students who completed one certificate between 2010-2011 and 2019-2020 had a higher average wage return of 29% ($9,346) one year after their certificate award.
- Adjusting wages to purchasing power by 2022, students who completed short certificate(s) between 2010-2011 and 2019-2020 but did not receive a degree had a higher average wage return of 26% ($7,842) one year after their certificate award. Adjusting wages to purchasing power by 2022, FTAV students who completed an Associate in Science degree between 2010-2011 and 2019-2020 had a higher average wage return of 55% ($17,821) one year after their degree award.

OUTPUT

Completing a preliminary analysis, Christos and Nichole graphed the graduation outcomes of students compared against College Career Pathway and prepared insights related to patterns in the data. These preliminary results were presented to senior leadership in Academic Affairs and Analytics and Reporting and the Workforce Team on November 9, 2021 (Appendix A). Attendees of presentations included the VP of Technology, Analytics and Reporting, the AVP of Analytics and Reporting, the AVP of Academic Affairs and the Workforce Team comprised of the AVP of Career and Workforce Education and all Deans responsible for CTE B.A.S, B.S., A.S., and college credential Technical Certificate Programs. The presentation included probability of completion or transfer first by College Career Pathways as modeled in the SDP –CTE Diagnostic Toolkit (Avery, C. et al., 2022) which were then adjusted by student age, academic preparedness (high school GPA), gender, race, and Pell eligibility.

For further collaboration on the project, Christos and Nichole returned to the Workforce Team on February 8, 2022, to codesign the CTE Program Conditions Survey (Appendix B) which was conducted from February 18 to March 25, 2022. For the first time at the college, a matrix exists with designations of all 44 A.S./B.A.S/B.S. degrees by program structure.

After analyzing the institutional data and including the new program structure variables, data about the overall completions rates across all credentials were shared with the AVP of Analytics and Reporting and the AVP of Academic Affairs (Appendix C). The results dispel myths about CTE data and the lack of measurability or comparability with specific data findings. First, lack of completion is not explained by students enrolling in a technical course for only for the information (at Valencia these are designated "personal interest" or "transient" program options and were not included in the analysis). Second, overall completion rates are not different by age and gender; therefore, if there is a discrepancy by College Career Pathways or specific program, it is an opportunity to change to achieve more equitable outcomes.

Once aggregate earnings were available from FETPIP, adjusted to buying power in 2022, and visualized for comparison to minimum living wage the results were shared with the AVP of Academic Affairs, AVP of Career and Workforce Education, and Manager of Career and Workforce Education (Appendix D). Discussions revealed the importance of sharing the evidence that one certificate raises earnings above the minimum living wage, shorter-term certificates improve earnings, and completing an A.S. degree produces much more buying power than collecting several certificates without degree completion. Collaborative conversations were planned to engage advisors, program faculty, deans, and senior leaders in translating the findings to actions directed at students who currently leave the college without any earned credential.

IMPACT

The immediate impact of these analyses is most evident in the collaboration of colleagues from different offices within Valencia and in partnership with offices at the state level. The longer-term impact is the expectation that the workbooks and tracking documents created will result in new CTE Key Performance Indicators (KPIs), program changes, and tracking of those changes for easier analysis of their effect. The following items represent the collaboration and products of the collaboration:

- High participation rate of all deans and many faculty program-chairs in discussion about the structure and course scheduling of programs which resulted in a matrix documenting each program's structure.
- Increased specific requests from CTE program chairs to go deeper in the data analysis on specific programs within College Career Pathways.
- Partnership with the Career and Workforce office empowered a working relationship between Valencia and the office of Florida Education and Training Placement Information Program (FETPIP) that combines labor market outcomes with CTE outcomes to include in program review processes.
- Discussions of findings with senior leadership emphasized the importance of a new Assistant Director position to combine CTE assessment and curricular support using products created as part of this fellowship:

1. New CTE Retention and Grad Rates Tableau Workbook visualizes FTAV CTE seeking students who enter in the fall of an Academic Year tracking retention to second year and graduation in third, fourth, or fifth year with any credential (CTE or AA degree) with filters for College Career Pathways, Program, and Program Type (Bachelor's, Associates, Long-Term, and Short-Term Certificates).

2. New CTE Demographics Comparison Tableau Workbook visualizes FTAV CTE seeking students who enter in the fall of an Academic Year with filters for College Career Pathways, Program, Program Type (Bachelor's, Associates, Long-Term, and Short-Term Certificates), Student Characteristics (Gender, Ethnicity, Age, First Generation in College, Pell Eligibility, First Time in College or Transfer, First-term Full-time or Part-time, First-term GPA, and First-term face-to-face, online, or both modalities), and Student Outcomes (Retained 2nd Year, Transfer First, Completion First, and Complete in 2 Years, 3 Years, or 5 Years).
3. CTE Matrix of Program Conditions documents CTE degree programs (A.S./B.S./B.A.S) including whether students are in a cohort taking shared classes, Course Sequence (Flexible, Guided, or Prescribed), and Prerequisite Sequences (courses can be taken in any order, only prerequisites before the program, one or two sets of courses, or three or more sets of courses that must be taken in sequence).
4. Updated CTE CIP Codes walkthrough matrix that tracks changes to the federally accepted course codes aligned to Valencia CTE programs by Program Codes, Program Descriptions, Required Credits, Program Type (Bachelor's, Associates, Long-Term, and Short-Term Certificates), First and Last Academic Year with Graduates, and Classification of Instructional Programs (CIP) Code by year since Academic Year 2010-11.
5. New Annual Earnings Tableau Workbook visualizes earnings of all students earning college-credit CTE credential who were found employed in Florida any full quarter since Academic Year 2010-2011 (except government employees). Average earnings for Prior Year, Grad Year, and Post Exit Year are adjusted by CPI to buying power in 2022 and filtered by College Career Pathway, Associates of Science Degree, Long-Term Certificates, Short-Term Certificates, One Certificate, Two Certificates, Three Certificates, More Than Three Certificates, Gender, and Ethnicity.

LESSONS LEARNED

In the context of Valencia's findings, there are two lessons learned that may translate to other institutions with similar CTE contexts (e.g. large institutions granting primarily two-year degrees with robust CTE portfolios). First, increasing enrollment can be achieved by retaining students who might otherwise discontinue their studies, especially those maintaining success in their coursework. Second, there are program structures that influence student decisions to continue and complete a credential or transfer to another institution.

In addition to lessons learned from the analysis, the following three lessons are changes in practice and language to apply to other strategic data projects:

- Engage many collaborators outside typical CTE partners with insights about the opportunity to build pathways within and across degrees for more students to earn technical credentials along the way.
- Engage all those who are interested in the outcomes early in the analysis process as collaborators, while the term "stakeholders" is often used as a catch-all for anyone affected by or who can influence change and has links to financial interests and investments that "minimize or obfuscate different interests" (MacDonald, G. and McLees, A., 2021).

- When presenting results avoid using the phrase “data-driven”. It assumes data is the source of truth, rather than clues to the truth. It ignores that data does not capture reality, much like a camera does not capture what is outside a picture frame. This leads to bias, assumptions about ground truth, and spurious correlations. Instead of using the term "data driven," use the term "analysis driven". Analysis driven insights signal a process to reduce uncertainty about the future by learning from data collected about the past and present that can inspire action.

QUESTIONS TO CONSIDER

Additional questions regarding methods and data sharing within and across institutions:

- Which program characteristics are unique to individual institutions, and which might be more generalizable across CTE networks?
- Are there analyses specific to College Career Pathways that are more important to share that align methodologies within the educational ecosystem of this College Career Pathways (e.g. early college engineering programs at community colleges and engineering programs at transfer institutions) than within institutions?
- What methods can illustrate outcomes for program characteristics previously untried based on historical data to determine results?
- When relying on historical data to determine outcomes, what methods can illustrate outcomes for students who were previously less represented in demographics?

References

Avery, C., Fullerton, J., Johnson, B., Murphy, Reinhart, A., and Swanson, E. (2022). Understanding patterns of success among postsecondary CTE students: A diagnostic for institutional and system analysts. Strategic Data Project. https://sdp.cepr.harvard.edu/files/sdp/files/cte_toolkit_may_2022.pdf?m=1653575744

Collins, J. D., Hall, E. J., Hall, N., & Paul, L. A. (Eds.). (2004). Causation and counterfactuals. MIT Press.

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Conrady, S., & Jouffe, L. (2015). Bayesian networks and BayesiaLab: A practical introduction for researchers. Bayesia USA.

MacDonald, G. and McLees, A. (2021, August 3). *As an evaluator, do I use words (e.gg. Stakeholder) that can be harmful to others?* [Online forum post]. AEA365. https://aea365.org/blog/as-an-evaluator-do-i-use-words-e-g-stakeholder-that-can-be-harmful-to-others-by-goldie-macdonald-anita-mclees/

Center for Education Policy and Research (CEPR) at Harvard

- **Strategic Data Project (SDP) - Career and Technical Education (CTE)**
  - Year long fellowship
  - Cohort of 14 Community Colleges
  - Toolkit for CTE shared CTE metrics
  - Research project completed in June 2022
    - Descriptive data for Program Review
    - Interpretative to inform the Strategic Impact Plan
    - Predictive indicators for equity
    - Build partnership for other CEPR opportunities

CEPR SDP-CTE Research Questions

- Which students, enrolled from fall 2010 and onwards persist, and complete their CTE programs at Valencia College within 3 years, 5 years, and 7 years?
- What student characteristics, program attributes and labor demand indicators are related to enrollment and persistence in CTE programs at Valencia College from fall 2010 onwards?

CEPR SDP-CTE Analysis Plan

- Does course modality affect completion of CTE programs?
- Does course scheduling affect progression and completion of CTE programs?
- Does CTE program structure influence student persistence and completion of CTE career pathways?
  - CCRC Guided Pathways Essential Practices
  - CCRC Four Dimensions of Structure in CTE

Diagnostic Toolkit

- Do different pathways have different completion rates? Are there differences for students with same characteristics?
- Why do completion rates differ across pathways? When and why do students transfer across pathways and what are the outcomes of transfer?
- Why do pathway completion rates differ? Are there gateway courses that are getting in the way of completion for some pathways?
- How do students accumulate credits in their pathway over time?

Diagnostic Toolkit (Module 1)

- Do different pathways have different completion rates? Are there differences for students with same characteristics?

Student Sample Population

- 5 Cohorts: Fall Entering Students (Fall 2014 – Fall 2018) seeking any credential (CTE Degree or Certificate)
- Student from Osceola or Orange
- Study Period 3 Years for each entering cohort
- Outcome Completion First, Transfer First, None
- Student Characteristics: Gender, Race, Age, Pell, HS GPA
- Pathway is defined as career clusters (7, Plant Science and Horticulture was excluded from prelim analyses-small sample)

Program Completions

BMA – Business Management

LPSS – Law, Public Safety, and Security

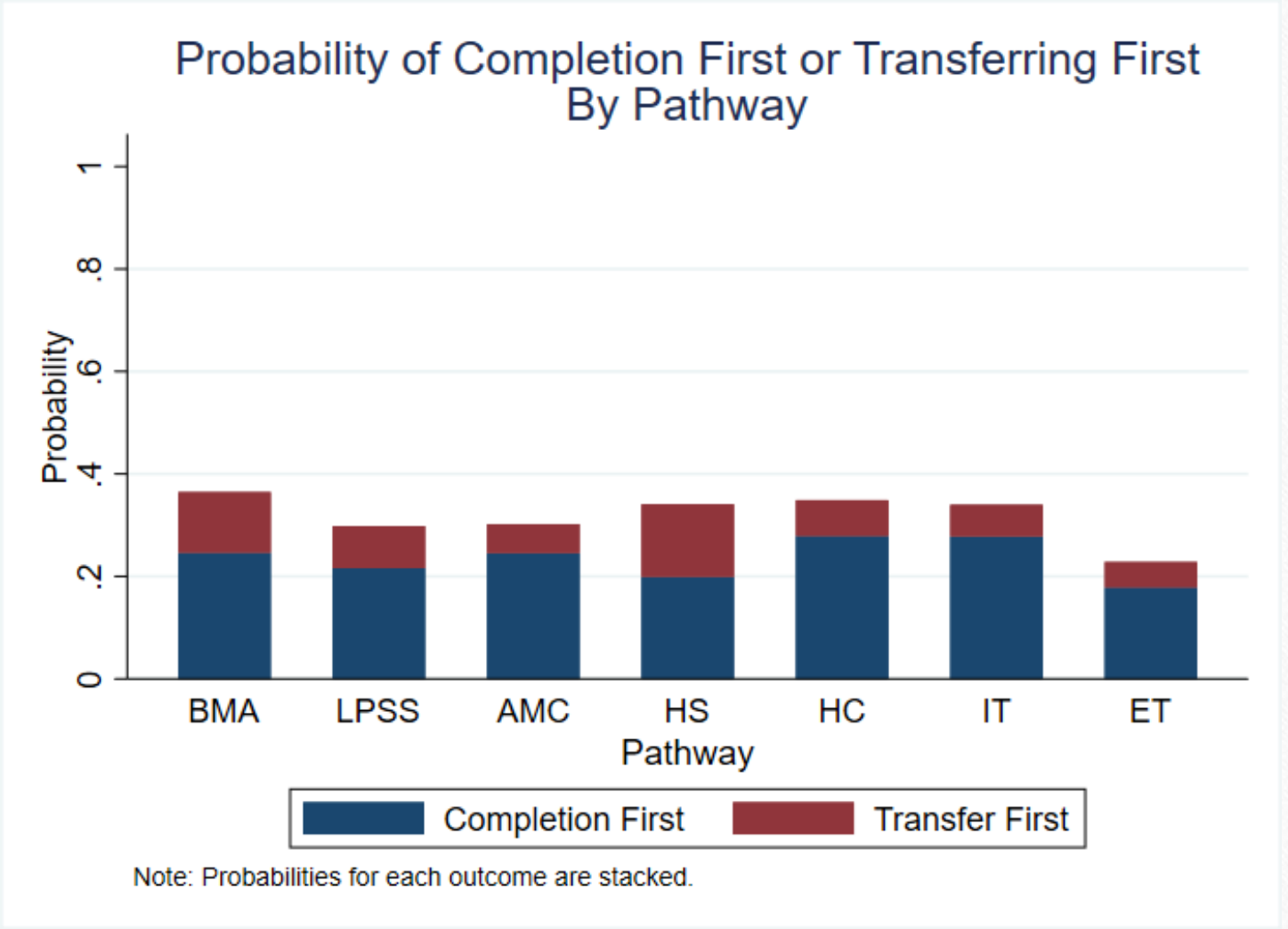
AMC – Arts, Media, and Communication

HS – Health Sciences

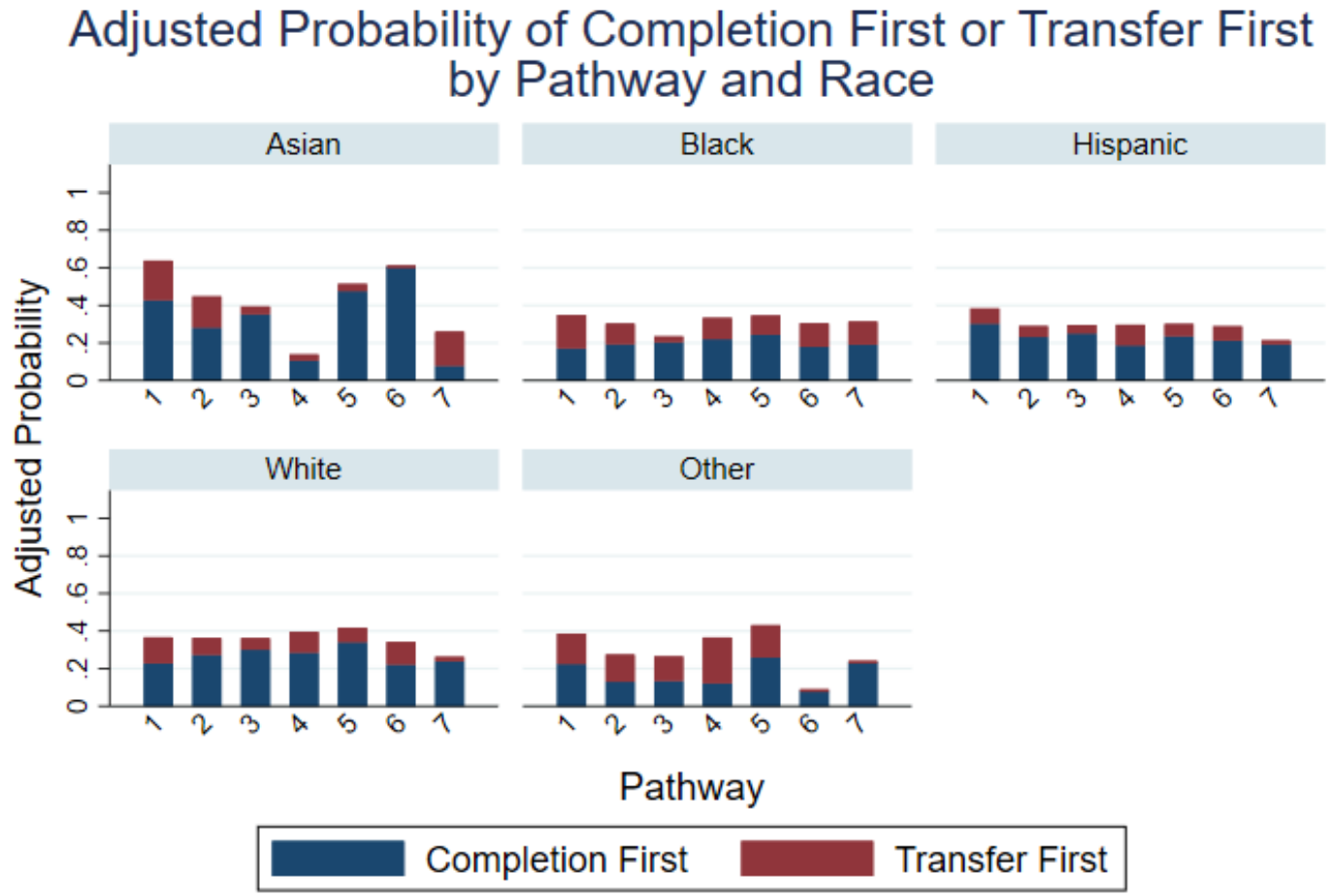
HC – Hospitality and Culinary

IT – Information Technology

ET - Engineering Technology



Program Completions - Disaggregated



Note: Adjusted probabilities for each outcome are stacked.

(1) BMA – Business Management

(2) LPSS – Law, Public Safety, and Security

(3) AMC – Arts, Media, and Communication

(4) HS – Health Sciences

(5) HC – Hospitality and Culinary

(6) IT – Information Technology

(7) ET - Engineering Technology

Program Completions – Controlling for Demographics

BMA – Business Management

LPSS – Law, Public Safety, and Security

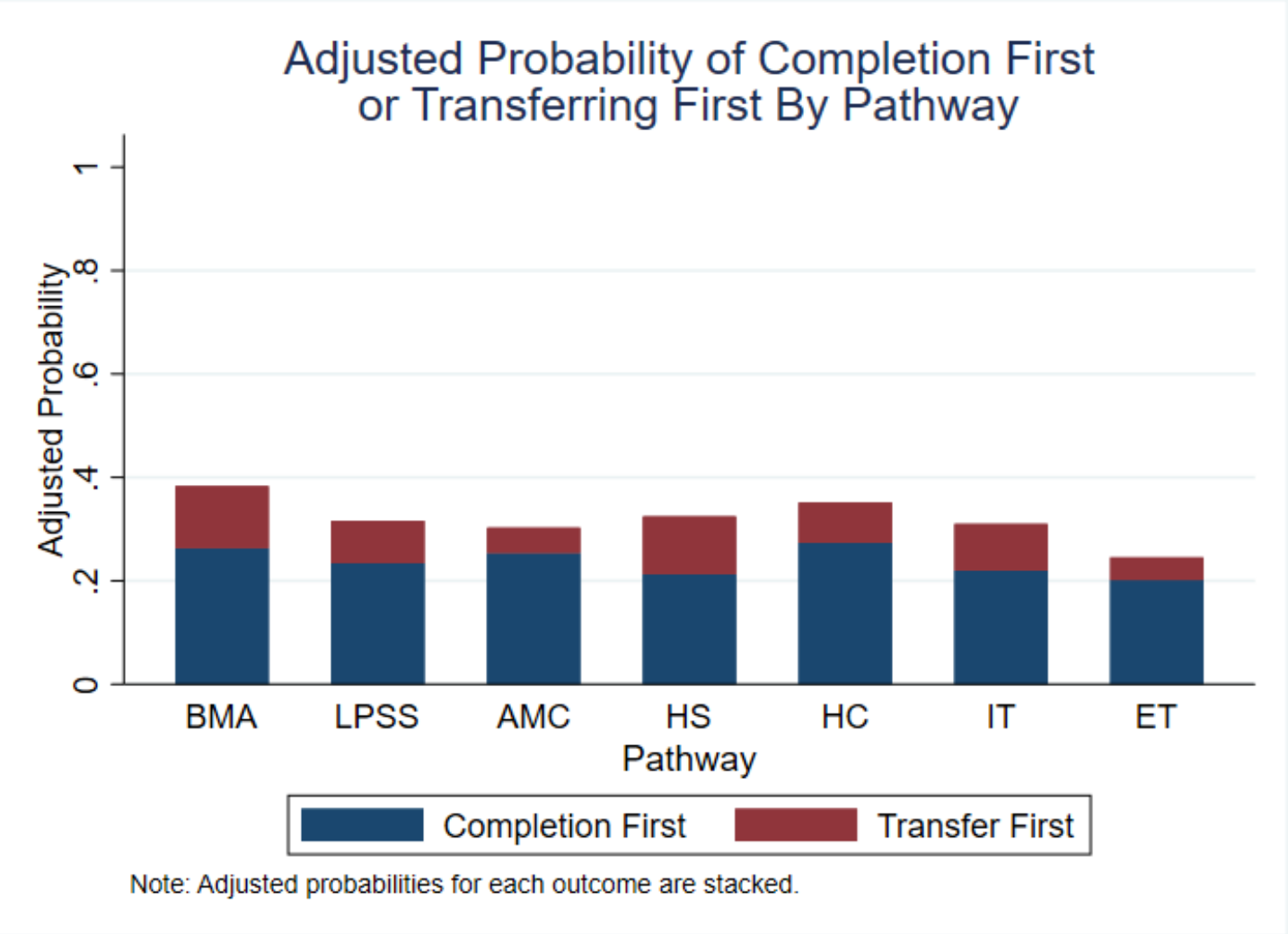
AMC – Arts, Media, and Communication

HS – Health Sciences

HC – Hospitality and Culinary

IT – Information Technology

ET - Engineering Technology



Appendix B

VALENCIA COLLEGE

CTE Programs

Select a program from the list below (if you need to complete this form for more than one program, please open the survey again after completing for this program).

- ○ Business and Organizational Leadership, Bachelor of Applied Science
- ○ Cardiopulmonary Sciences, Bachelor of Science
- ○ Computing Technology and Software Development, Bachelor of Applied Science
- ○ Electrical and Computer Engineering Technology, Bachelor of Science
- ○ Nursing, Bachelor of Science
- ○ Radiologic and Imaging Sciences, Bachelor of Science
- ○ Accounting Technology, Associate of Science
- ○ Administrative Office Management, Associate of Science
- ○ Baking and Pastry Management, Associate of Science

- ○ Biotechnology Laboratory Sciences, Associate of Science
- ○ Business Administration, Associate of Science
- ○ Cardiovascular Technology, Associate of Science
- ○ Computer-Aided Drafting and Design Technology, Associate of Science
- ○ Computer Information Technology, Associate of Science
- ○ Computer Programming and Analysis, Associate of Science
- ○ Construction and Civil Engineering Technology, Associate of Science
- ○ Criminal Justice, Associate of Science
- ○ Criminal Justice Law Enforcement Academy Track, Associate of Science
- ○ Culinary Management, Associate of Science
- ○ Dental Hygiene, Associate of Science
- ○ Diagnostic Medical Sonography, Associate of Science
- ○ Digital Media Technology, Associate of Science
- ○ Electrical and Computer Engineering Technology, Associate of Science
- ○ Emergency Medical Services Technology, Associate of Science
- ○ Energy Management and Controls Technology, Associate of Science
- ○ Film Production Technology, Associate of Science
- ○ Fire Science Academy Track, Associate of Science
- ○ Fire Science Technology, Associate of Science
- ○ Graphic and Interactive Design, Associate of Science
- ○ Health Information Technology, Associate of Science

- ○ Hospitality and Tourism Management, Associate of Science
- ○ Live Entertainment Design and Production, Associate of Science
- ○ Medical Administration, Associate of Science
- ○ Cybersecurity & Network Engineering Technology, Associate of Science
- ○ New Media Communication, Associate of Science
- ○ Nursing, Associate of Science
- ○ Paralegal Studies, Associate of Science
- ○ Plant Science and Agricultural Technology, Associate of Science
- ○ Radiography, Associate of Science
- ○ Respiratory Care, Associate of Science
- ○ Property Management, Associate of Science
- ○ Restaurant and Food Service Management, Associate of Science
- ○ Sound and Music Technology, Associate of Science
- ○ Science, Technology, Engineering, and Math, Associate of Science
- ○ Supervision and Management for Industry, Associate of Science
- ○ [ ] Other, program not listed

Program Structure

Please give your overall impression of the structure of the ${q://QID1/ChoiceGroup/SelectedChoices} program:

1) Clearly mapped out for students.
2) Students know which courses they should take and in what sequence.
3) Courses critical for success in each program and other key progress milestones are clearly identified.
4) All this information is easily accessible on the college's website.

- ○ None of this is occuring
- ○ Some of this is occurring, but not in a systematic way
- ○ Plans for implementing exist in all four areas
- ○ Implementation of all four areas has begun
- ○ All four of these have already been implemented

Does the ${q://QID1/ChoiceGroup/SelectedChoices} program have a cohort option?
(If yes, please explain the size and duration of the cohort).

- ○ Yes [ ]
- ○ No
- ○ Unknown

Designate the ${q://QID1/ChoiceGroup/SelectedChoices} program's course sequence.

- ○ Unrestricted: Courses can be taken in any sequence
- ○ Flexible: Most Program courses can be taken in any sequence, but General Education prerequisites (e.g. math requirements) create some limitations
- ○ Guided: Introductory courses can be taken without limitation, but a significant number of intermediate and advance courses must be taken in sequence
- ○ Prescribed: Courses are taken in a standard sequence with few exceptions.
- ○ Other: Please describe any unique course sequencing [ ]

Does the ${q://QID1/ChoiceGroup/SelectedChoices} degree program contain prerequisite sequences once in the program?

- ○ No, any courses can be taken in any order
- ○ No, but there are prerequisites to enter the program
- ○ Yes, there are one or two sets of courses that have to be taken in sequence
- ○ Yes, there are three or more sets of courses that have to be taken in sequence

Course Schedule

Please select your overall impression of the scheduling practices of the ${q://QID1/ChoiceGroup/SelectedChoices} program:

This program schedules courses to ensure students can:

1) take the courses they need when they need them.
2) plan their lives around school from one term to the next.
3) complete their programs in as short a time as possible.

- ○ None of this is occuring
- ○ Some of this is occurring, but not in a systematic way
- ○ Plans for implementing exist for all three areas
- ○ Implementation of all three areas has begun
- ○ All three of these have already been implemented

Does the ${q://QID1/ChoiceGroup/SelectedChoices} program offer evening courses? (Select the response for each type of course.)

	Yes, evening courses are offered	No, evening courses are not offered	Unsure
Foundation Courses	○	○	○
Intermediate Courses	○	○	○
Advanced Courses	○	○	○

Does the ${q://QID1/ChoiceGroup/SelectedChoices} program offer weekend courses? (Select the response for each type of course.)

	Yes, weekend courses are offered	No, weekend courses are not offered	Unsure
Foundation Courses	○	○	○
Intermediate Courses	○	○	○
Advanced Courses	○	○	○

Which campuses does the ${q://QID1/ChoiceGroup/SelectedChoices} program offer courses on? (Select all that apply for each type of course.)

	Downtown	East	Lake Nona	Osceola	Poinciana	West	Winter Park	Online
Foundation Courses	☐	☐	☐	☐	☐	☐	☐	☐

	Downtown	East	Lake Nona	Osceola	Poinciana	West	Winter Park	Online
Intermediate Courses	☐	☐	☐	☐	☐	☐	☐	☐
Advanced Courses	☐	☐	☐	☐	☐	☐	☐	☐

Select your role in the ${q://QID1/ChoiceGroup/SelectedChoices} program and list your name.

- ○ [ ] career program advisor
- ○ [ ] dean
- ○ [ ] faculty program chair (current)
- ○ [ ] faculty, full-time (not program chair)
- ○ [ ] faculty, part-time

other (please describe)

[Optional] Describe any other details about the ${q://QID1/ChoiceGroup/SelectedChoices} program that guide students from "point of entry through to attainment of high-quality postsecondary credentials and careers with value in the labor market." (CCRC and the AACC Pathways Project http://www.pathwaysresources.org/wp-content/uploads/2018/04/PathwaysModelDescription_Final.pdf

Appendix C

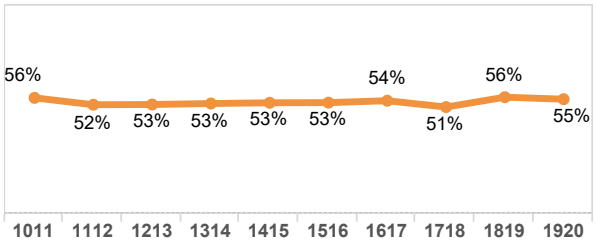
VALENCIACOLLEGE

Career Pathways

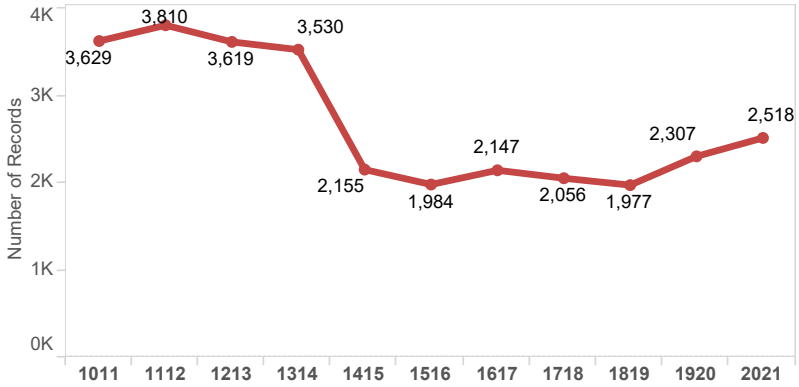
Students seeking Career and Technical Education Degrees and Credentials
Retention and Graduation Rates - Fall Entering First Time at Valencia Students

Career Cluster	Program Type	Program Desc
All	All	All

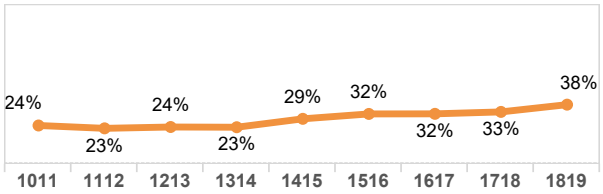
% Retained to 2nd Year



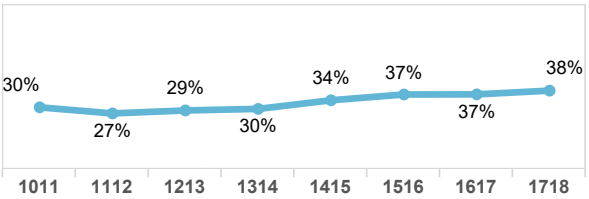
Cohort Size Trend per Academic Year per Fall of Academic Year



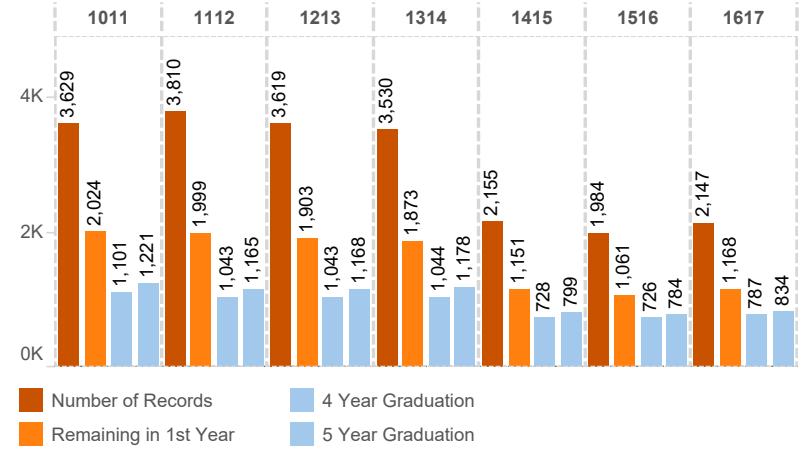
% Graduated in 3rd Year



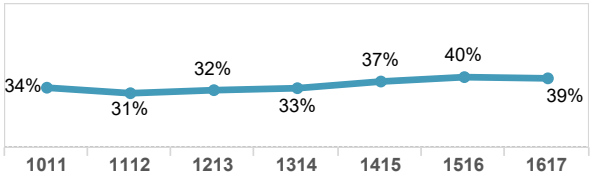
4 Year Graduation Rate with any credential



Number of Students: Retained/Graduated per Fall of Academic Year



5 Year Graduation Rate with any credential

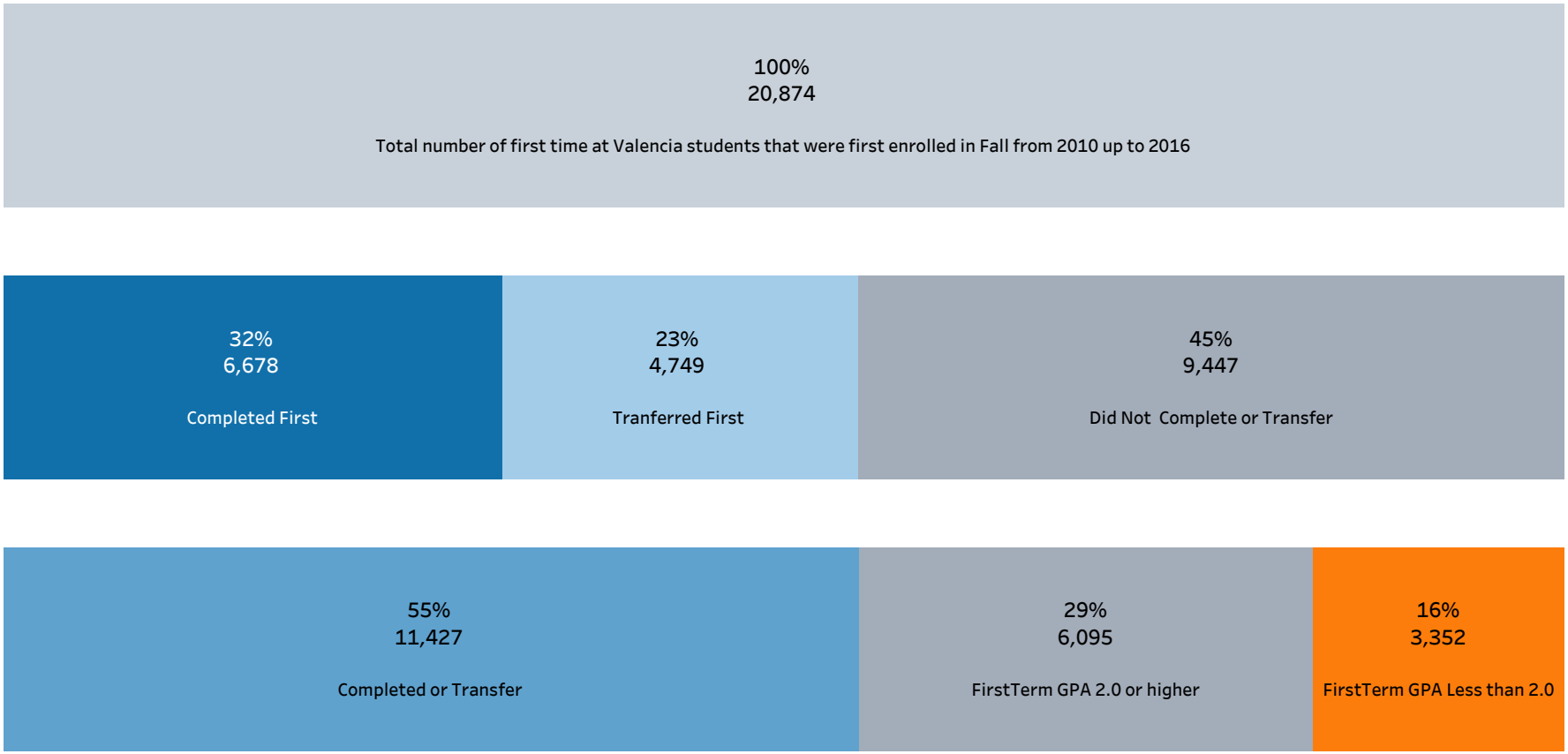


Summary Table

Cohort AY	Count of Pidm	1 -> 2 Yr Retention (%)	3 Yr Graduation (%)	4 Yr Graduation (%)	5 Yr Graduation (%)
1011	3,629	56%	30%	30%	34%
1112	3,810	52%	27%	27%	31%
1213	3,619	53%	29%	29%	32%
1314	3,530	53%	30%	30%	33%
1415	2,155	53%	34%	34%	37%
1516	1,984	53%	37%	37%	40%
1617	2,147	54%	37%	37%	39%
1718	2,056	51%	38%	38%	
1819	1,977	56%	40%		
1920	2,307	55%			
2021	2,518				

Appendix C

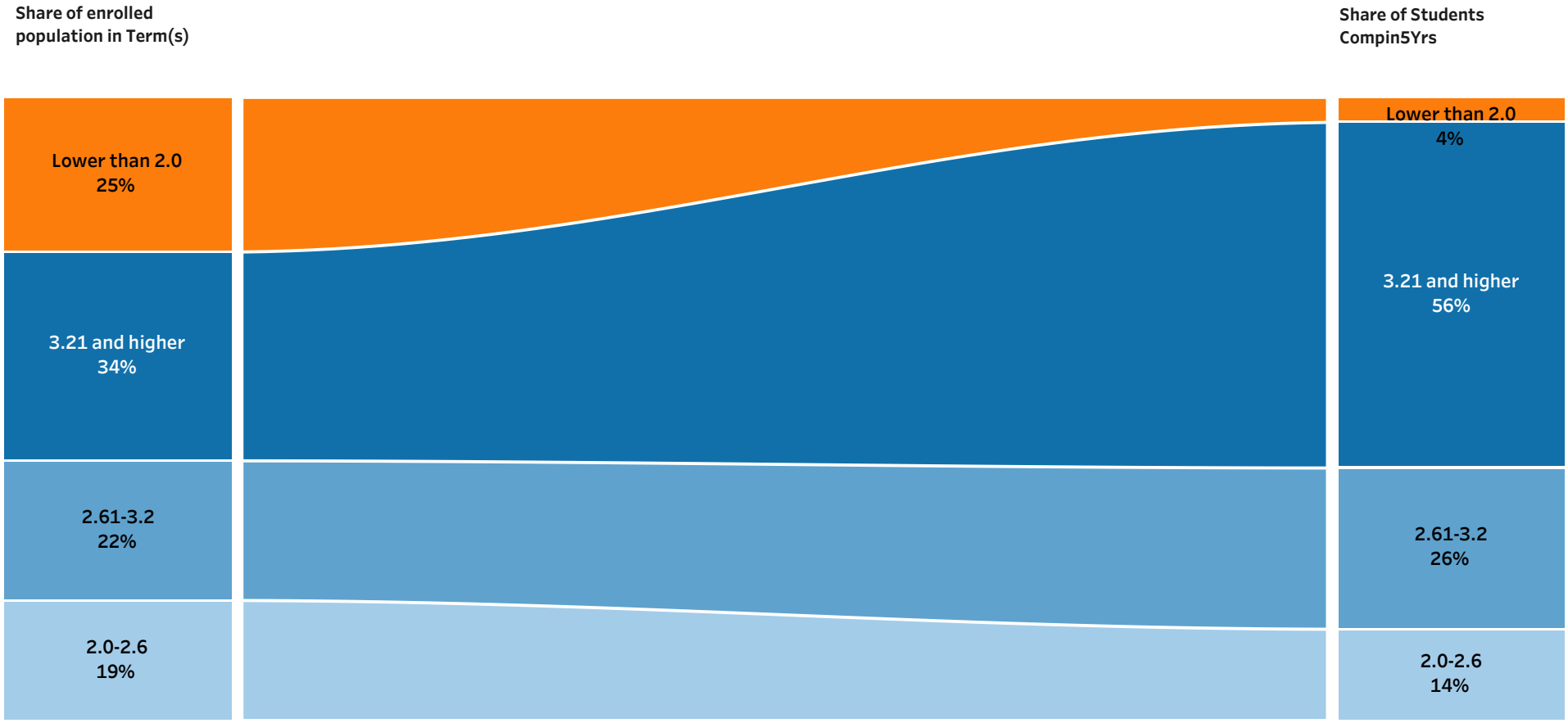
Completion of any college-credit credential at Valencia



Appendix C

Student Characteristics of fall entering, first-time at Valencia students compared to the demographics of students by selected outcome

Semester	Career Cluster	Degree Seeking	Program Type	Program Desc	Select Characteristics	Characteristics Subcategories	Select Outcome
All	All	All	All	All	First Term GPA	All	Compin5Yrs

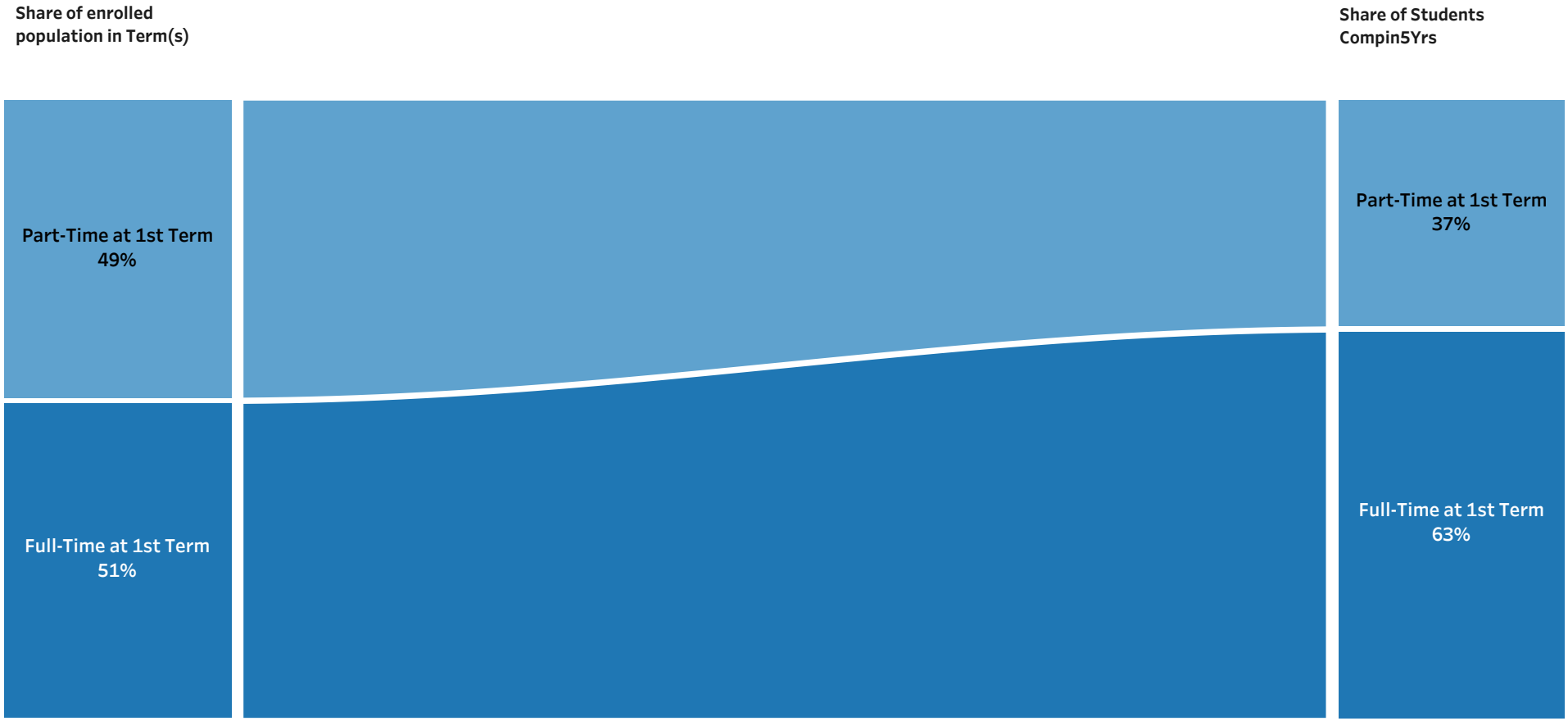


Strategic Data Project, Valencia College

Appendix C

Student Characteristics of fall entering, first-time at Valencia students compared to the demographics of students by selected outcome

Semester	Career Cluster	Degree Seeking	Program Type	Program Desc	Select Characteristics	Characteristics Subcategories	Select Outcome
All	All	All	All	All	Full Time Part Time at 1st Term	All	Compin5Yrs



Strategic Data Project, Valencia College

Appendix C

Student Characteristics of fall entering, first-time at Valencia students compared to the demographics of students by selected outcome

Semester	Career Cluster	Degree Seeking	Program Type	Program Desc	Select Characteristics	Characteristics Subcategories	Select Outcome
All	All	All	All	All	Admission Status	All	Compin5Yrs

Strategic Data Project, Valencia College

Appendix C

Student Characteristics of fall entering, first-time at Valencia students compared to the demographics of students by selected outcome

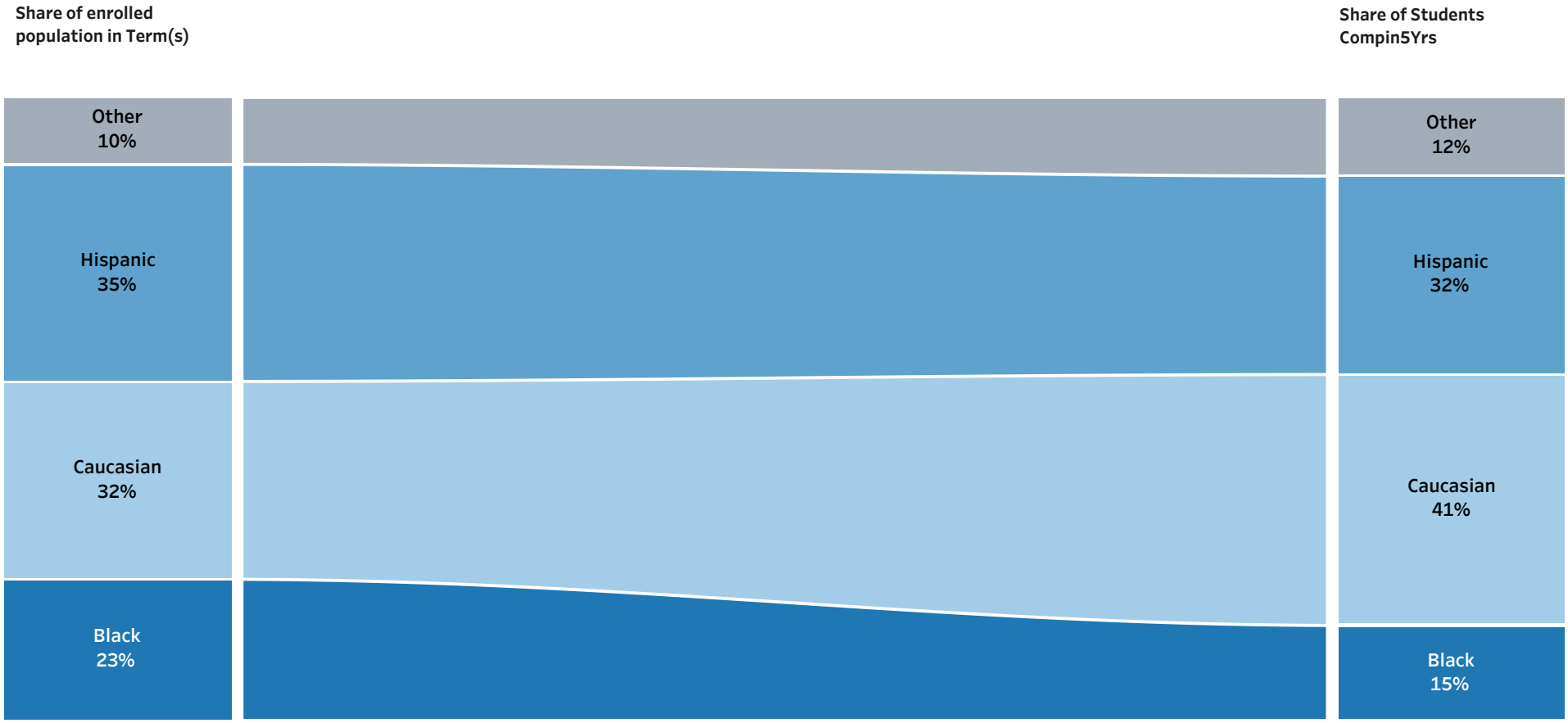
Semester	Career Cluster	Degree Seeking	Program Type	Program Desc	Select Characteristics	Characteristics Subcategories	Select Outcome
All	All	All	All	All	Pell Elligible	All	Compin5Yrs

Strategic Data Project, Valencia College

Appendix C

Student Characteristics of fall entering, first-time at Valencia students compared to the demographics of students by selected outcome

Semester	Career Cluster	Degree Seeking	Program Type	Program Desc	Select Characteristics	Characteristics Subcategories	Select Outcome
All	All	All	All	All	Ethinicity	All	Compin5Yrs



Strategic Data Project, Valencia College

Appendix C

Student Characteristics of fall entering, first-time at Valencia students compared to the demographics of students by selected outcome

Semester	Career Cluster	Degree Seeking	Program Type	Program Desc	Select Characteristics	Characteristics Subcategories	Select Outcome
All	All	All	All	All	Student Modality	All	Compin5Yrs

Strategic Data Project, Valencia College

Appendix C

Student Characteristics of fall entering, first-time at Valencia students compared to the demographics of students by selected outcome

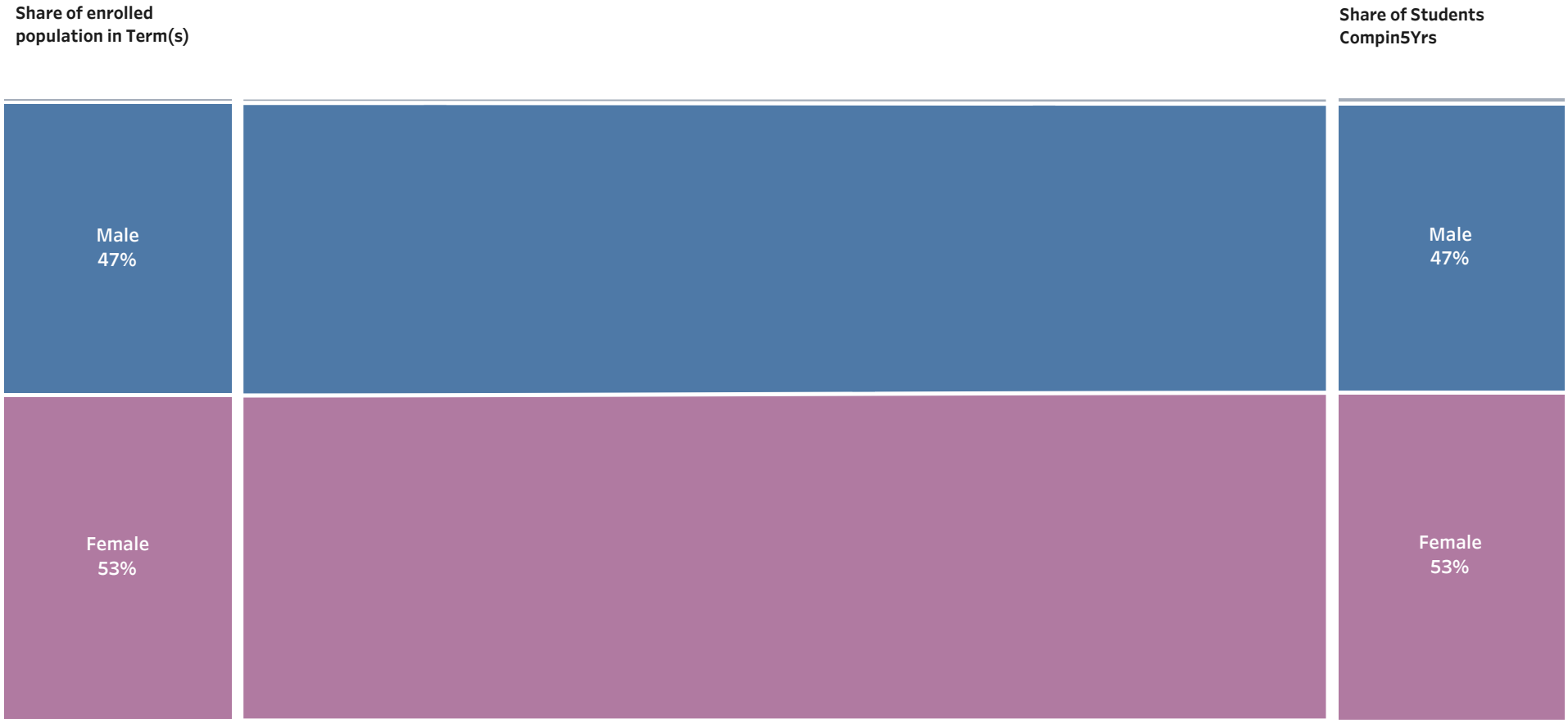
Semester	Career Cluster	Degree Seeking	Program Type	Program Desc	Select Characteristics	Characteristics Subcategories	Select Outcome
All	All	All	All	All	First Generation	All	Compin5Yrs

Strategic Data Project, Valencia College

Appendix C

Student Characteristics of fall entering, first-time at Valencia students compared to the demographics of students by selected outcome

Semester	Career Cluster	Degree Seeking	Program Type	Program Desc	Select Characteristics	Characteristics Subcategories	Select Outcome
All	All	All	All	All	Gender	All	Compin5Yrs

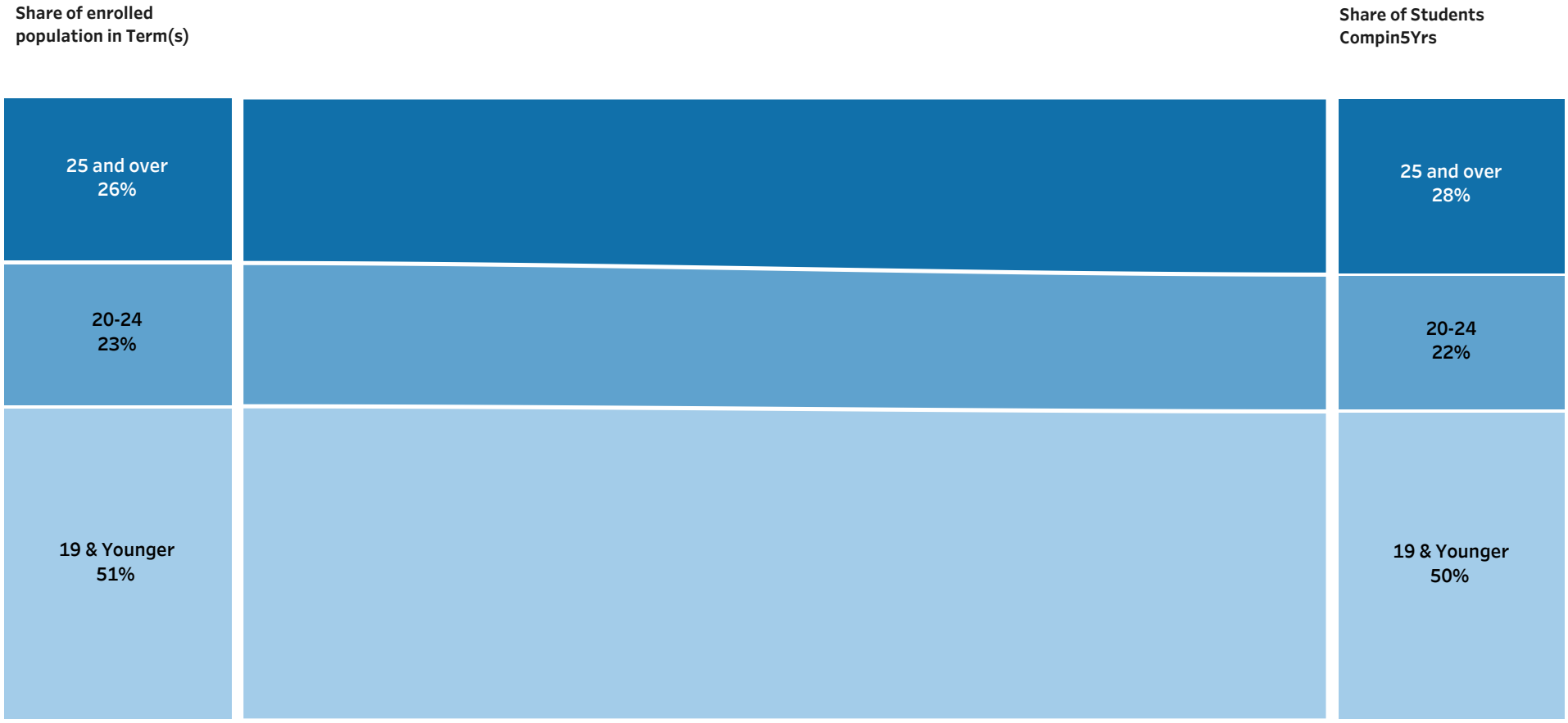


Strategic Data Project, Valencia College

Appendix C

Student Characteristics of fall entering, first-time at Valencia students compared to the demographics of students by selected outcome

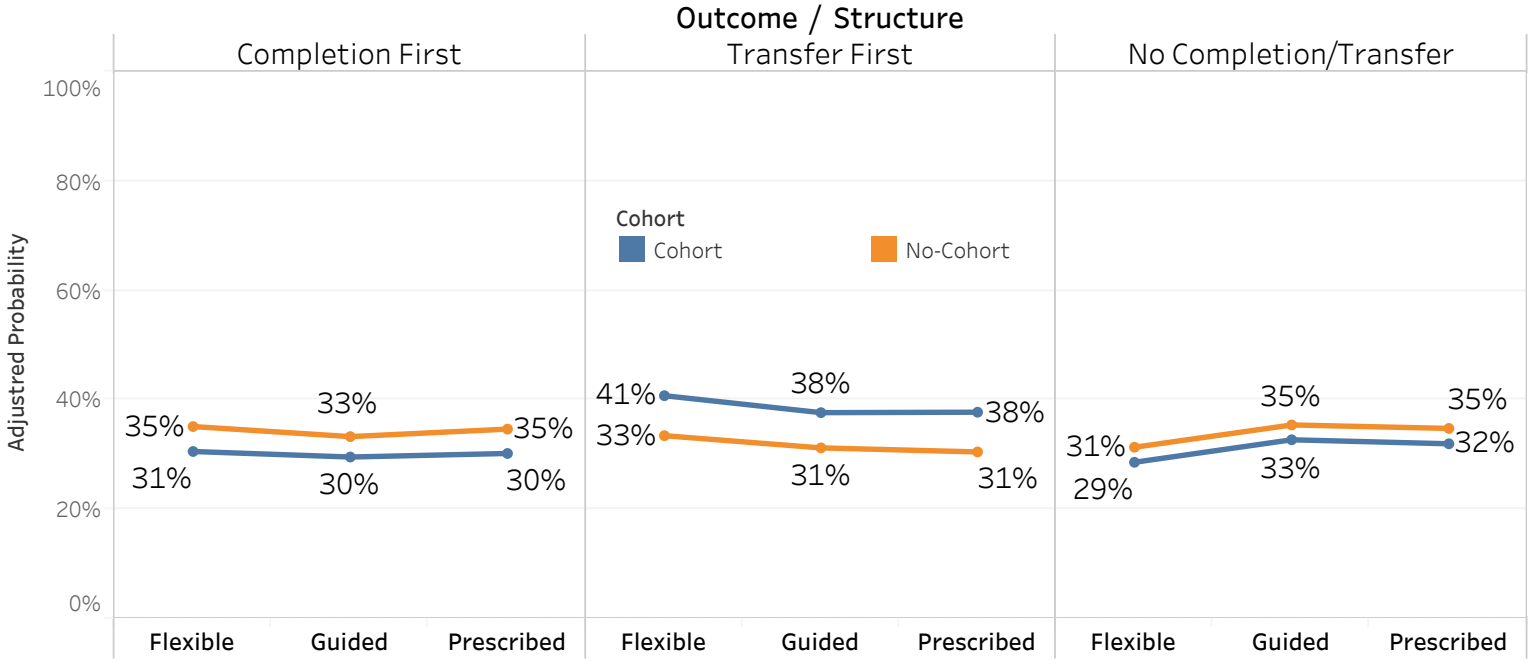
Semester	Career Cluster	Degree Seeking	Program Type	Program Desc	Select Characteristics	Characteristics Subcategories	Select Outcome
All	All	All	All	All	Age Group	All	Compin5Yrs



Strategic Data Project, Valencia College

Appendix C

Adjusted Probabilities of Completion or Transferring First in five years period broken down by Program Structure and Cohort



Table

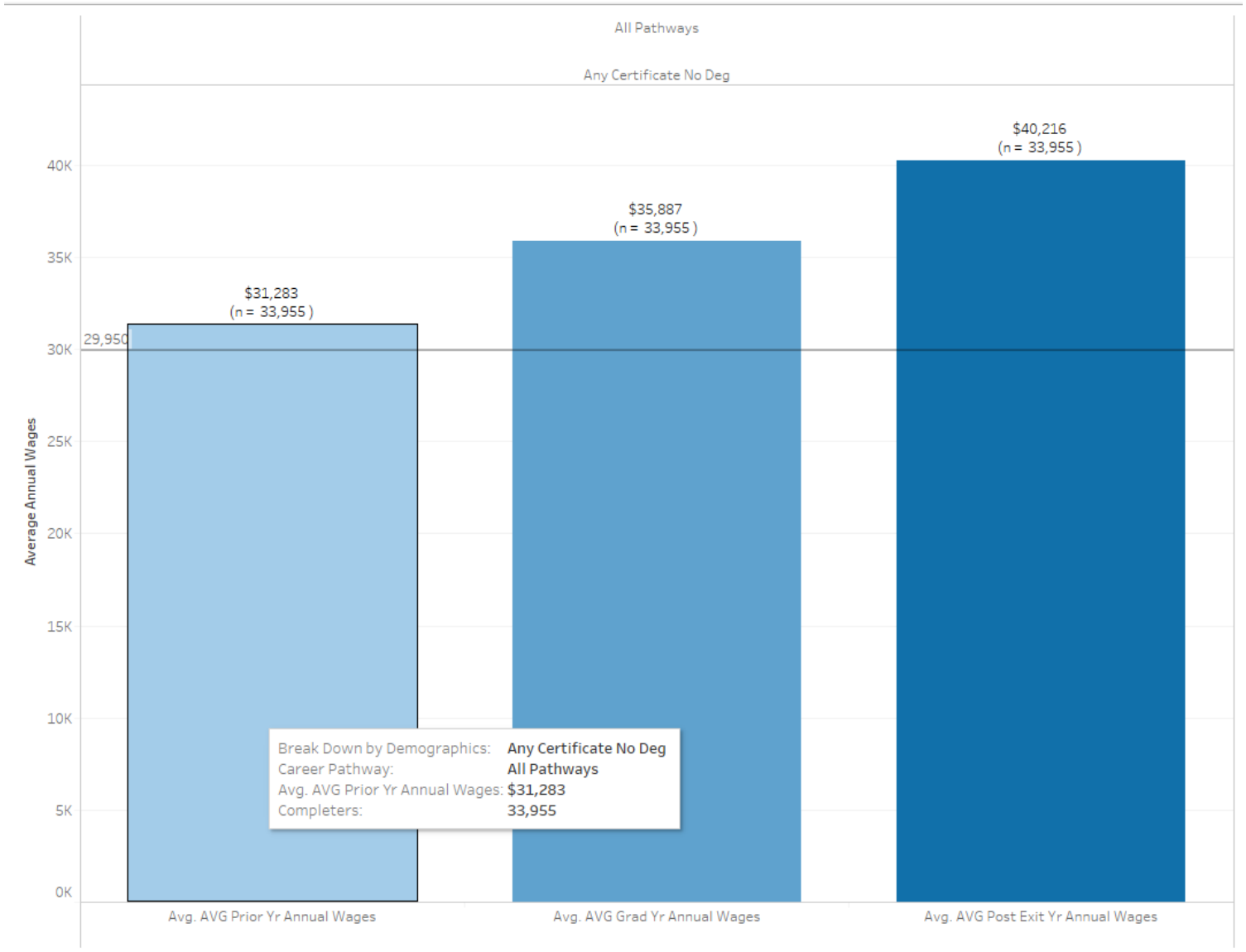
28.62% 40.79%

Cohort / Structure

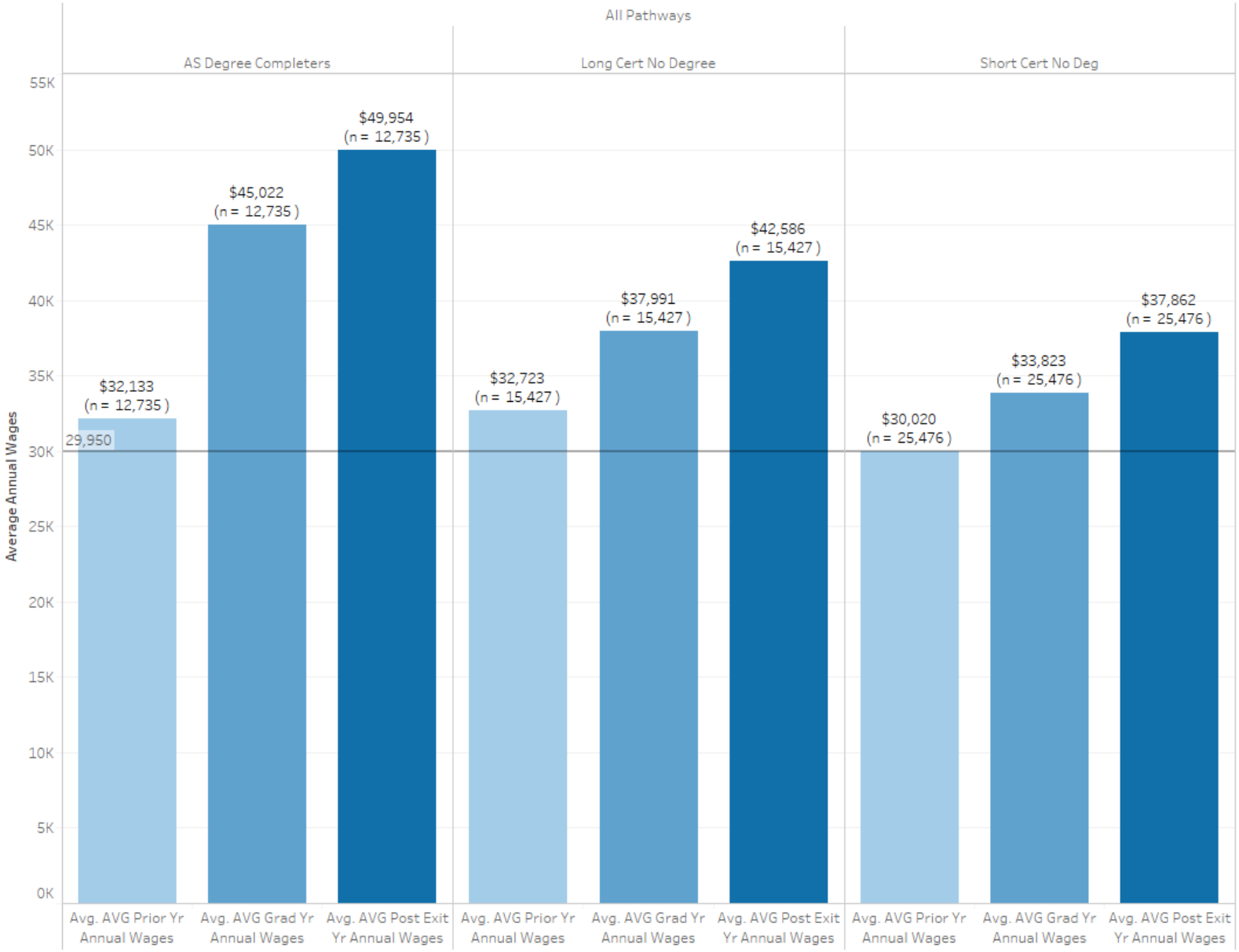
Outcome	Cohort			No-Cohort		
	Flexible	Guided	Prescribed	Flexible	Guided	Prescribed
Completion First	30.59%	29.58%	30.23%	35.15%	33.31%	34.68%
Transfer First	40.79%	37.69%	37.77%	33.48%	31.25%	30.51%
No Completion/Transfer	28.62%	32.73%	32.00%	31.37%	35.44%	34.81%

Note: First time at Valencia students, seeking an associate degree in science, that were first enrolled each fall between 2010 and 2016 (n=15,686).

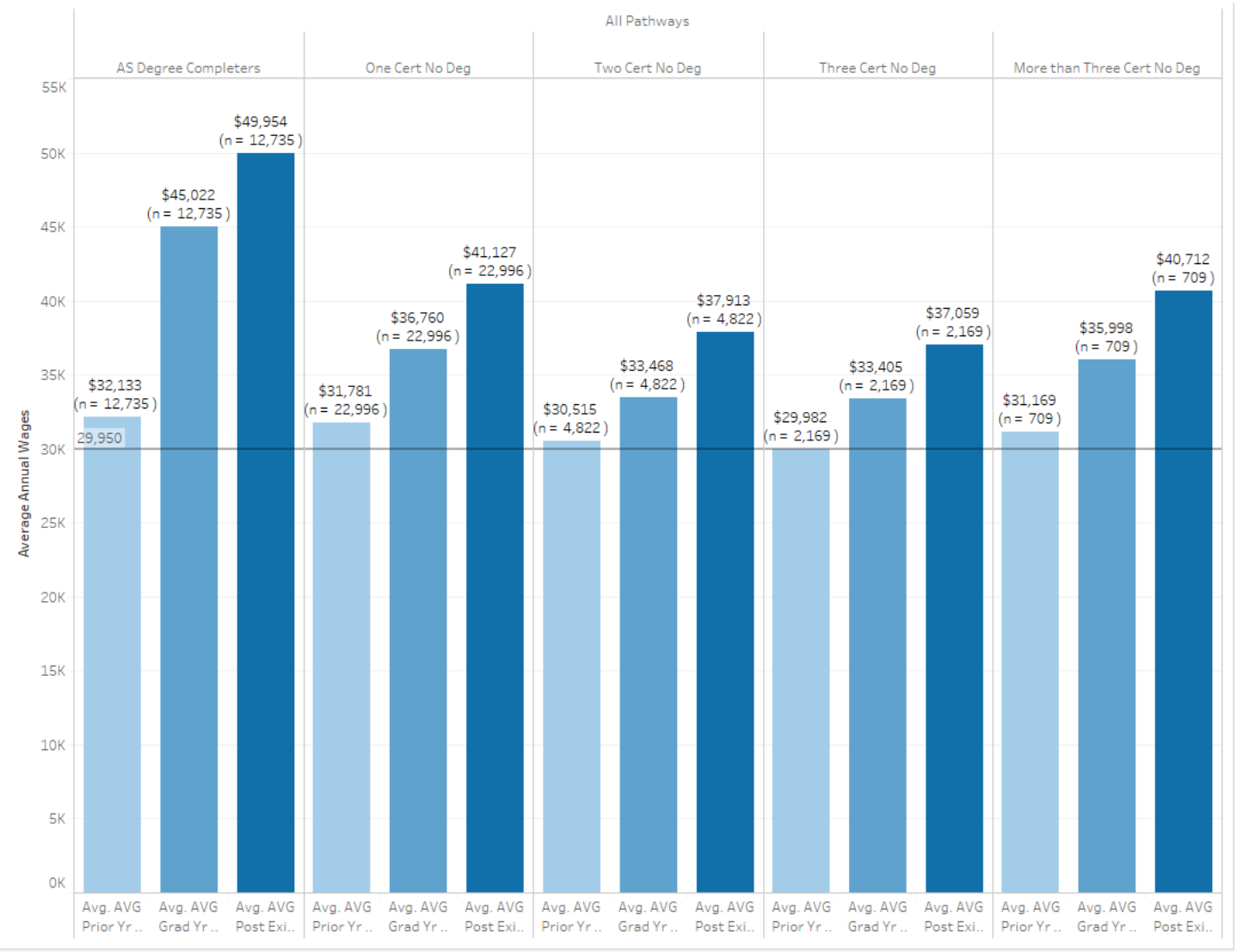
Appendix D


All Pathways
Any Certificate No Deg
$40,216
(n = 33,955)
$35,887
(n = 33,955)
$31,283
(n = 33,955)
29,950
40K
35K
30K
25K
20K
15K
10K
5K
0K
Average Annual Wages
Break Down by Demographics: Any Certificate No Deg
Career Pathway: All Pathways
Avg. AVG Prior Yr Annual Wages: $31,283
Completers: 33,955
Avg. AVG Prior Yr Annual Wages
Avg. AVG Grad Yr Annual Wages
Avg. AVG Post Exit Yr Annual Wages

Appendix D


All Pathways
AS Degree Completers
Long Cert No Degree
Short Cert No Deg
Average Annual Wages
55K
50K
45K
40K
35K
30K
25K
20K
15K
10K
5K
0K
29,950
$32,133 (n = 12,735)
$45,022 (n = 12,735)
$49,954 (n = 12,735)
$32,723 (n = 15,427)
$37,991 (n = 15,427)
$42,586 (n = 15,427)
$30,020 (n = 25,476)
$33,823 (n = 25,476)
$37,862 (n = 25,476)
Avg. AVG Prior Yr Annual Wages
Avg. AVG Grad Yr Annual Wages
Avg. AVG Post Exit Yr Annual Wages

Appendix D


All Pathways
AS Degree Completers
One Cert No Deg
Two Cert No Deg
Three Cert No Deg
More than Three Cert No Deg
Average Annual Wages
55K
50K
45K
40K
35K
30K
25K
20K
15K
10K
5K
0K
29,950
$32,133 (n = 12,735)
$45,022 (n = 12,735)
$49,954 (n = 12,735)
$31,781 (n = 22,996)
$36,760 (n = 22,996)
$41,127 (n = 22,996)
$30,515 (n = 4,822)
$33,468 (n = 4,822)
$37,913 (n = 4,822)
$29,982 (n = 2,169)
$33,405 (n = 2,169)
$37,059 (n = 2,169)
$31,169 (n = 709)
$35,998 (n = 709)
$40,712 (n = 709)
Avg. AVG Prior Yr ..
Avg. AVG Grad Yr ..
Avg. AVG Post Exi..