

**Completing the Degree Makes a Difference:
Evidence on Labor Market Returns to
Community College Bachelor's Programs**

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July 2026



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Executive Summary

- Graduates and non-graduates of community college baccalaureate (CCB) degree programs are relatively similar by gender, race/ethnicity, age, and socioeconomic status
- Key differences between CCB graduates and non-graduates: graduates were less likely to enroll part-time (28% vs. 45%) and more likely to have prior Washington community college experience (94% vs. 87%)
- After accounting for observed differences between CCB graduates and non-graduates, inferential analysis reveals:
 - Graduates earn ~25% more annually than comparable non-graduates by year three (~\$11,400); this grew to ~29% more by year five (~\$14,000)
 - Graduates earn 17-19% more per hour and are 8-12 percentage points more likely to be employed by year three; this grew over time
 - Female: Graduates earned ~33% more (~\$16,600) by year three and 41% (~\$19,400) by year five
 - Latine: Graduates earn ~33% more annually by year three (~\$17,100) and this grew to 44% by year five (~\$22,300)
 - Health Professions: Graduates earn ~64% more annually by year three (~\$30,500) and this held steady by year five (~\$29,100)
 - Computer & Information Sciences & Support Services: ~12% by year three (~\$2,700) and ~28% by year five (~\$10,700)

Introduction and Research Questions

Community College Bachelor's (CCB) programs offer students an affordable pathway to a bachelor's degree, primarily in applied and workforce-oriented fields. As these programs grow across Washington State, a key question emerges:

Does completing a CCB degree actually improve labor market outcomes—and if so, by how much?

Prior research has linked CCB participation and positive wage outcomes (Acton et al., 2025; Cominole, 2017; Kaikkonen & Quarles, 2018; Love, 2020; Meza & Bragg, 2022), but the bulk of this analysis has been descriptive and, to our knowledge, none has compared graduates and non-graduates who matriculated into a CCB degree. This report addresses self-selection challenges and a rigorous research gap by using statewide administrative data from Washington's SBCTC (State Board for Community and Technical Colleges), to compare annual earnings, hourly wages, and employment rates between CCB completers and non-

completers across three, four, and five years after program entry. To account for potential differences between CCB graduates and non-graduates, advanced analytic approaches are applied to better discern the impact of CCB programs. In particular, we also take a closer look at Computer & Information Sciences & Support Services (CISSS)—a field of particular economic importance to Washington and one experiencing significant recent disruption.

Two broad research questions (RQs) guide the analysis:

1. How similar or different are CCB graduates and non-graduates in Washington State?
2. What CCB completion differentials exist in labor market outcomes between graduates and non-graduates? How do they change over time? How do they vary, specifically for students in Computer & Information Sciences & Support Services programs?

Data & Methods

Analytic Sample

This report draws on a statewide, longitudinal administrative dataset built and maintained by the Washington SBCTC. It includes students who entered a CCB program in Washington at any point between the 2018–19 and 2022–23 academic years, across 30 of the state's community and technical colleges (hereafter community colleges) that offer CCB programs. Three newer CCB colleges and their respective programs are excluded because not enough time has elapsed to generate usable wage data.

For the labor market returns analysis and comparison at the heart of this analysis, we divided the full pool of CCB students from the sample's time frame into three categories:

1. Graduates (students who received a CCB bachelor's degree);
2. Non-graduates (students who stopped enrolling in any Washington community college for at least four consecutive quarters with no record of re-enrollment—essentially those who left without a degree);
3. Current students (still enrolled).

The analysis only focuses exclusively on CCB graduates and non-graduates since these are the two groups whose labor market paths can be meaningfully compared.

The analytic sample includes 13,074 total CCB students with 8,927 graduates (68%) and 4,147 non-graduates (32%).¹ Labor market outcomes are measured at three time periods—roughly three, four, and five years after a student first began their upper-division coursework in their CCB program. Because the dataset only extends through 2023–24, not all cohorts have completely “usable” data at all three time points: the earliest three cohorts (2018–19 through 2020–21) have all three observation windows, the 2021–22 cohort has two, and the 2022–23 cohort has only one. The sample sizes available at each window are approximately 13,000 (year three), 10,750 (year four), and 8,340 (year five).

Labor market outcomes come from Washington's unemployment insurance (UI) records—the wage data employers report when they pay into the state's unemployment system. These records capture whether a former student was employed in a given period, their total annual earnings, and their median hourly wage. One important caveat is that UI records inherently miss people who are self-employed, federally employed, working out of state, on active military duty, or otherwise outside the UI system. Any earnings or employment differences identified in this analysis reflect only employment that shows up in Washington's UI system. This analysis focuses primarily on total annual earnings given the relevance of this metric as a measure of college and labor market alignment.

Analytic Approach and Reporting Convention

Descriptive and inferential analysis was conducted to generate insights into both research questions. For the first research question, we examined similarities/differences in the social contexts and backgrounds of CCB graduates and non-graduates using descriptive statistics. This included gender, race/ethnicity, age group, socioeconomic status, enrollment intensity (full- or part-time enrolled in the first term they started upper division courses), prior community college enrollment and educational goal, and field of study (as defined by two-digit Classification of Instructional Program [CIP] codes [CIP-2]). We focus on the four CIP-2 codes with the largest CCB enrollment: Business, Management, Marketing, & Related Services (CIP-2 = 52); Computer & Information Sciences & Support Services (CISSS; CIP-2 = 11), Education (CIP-2 = 13), and Health Professions & Related Programs (hereafter Health Professions; CIP-2 = 51). To help guide where the biggest differences were, Fisher's exact tests were conducted to examine whether differences were statistically significant; however, we note that practical differences are important in this exploratory analysis.

To generate insights into the second research question, we used ordinary least squares (OLS) regression with covariate adjustment to examine the CCB completion differential in

¹ There are 60 students who had multiple records of CCB matriculation because they entered into a CCB program at different colleges and/or programs; duplicated students are included in the analytic sample.

labor market outcomes (e.g., labor market returns between CCB graduates and non-graduates). To account for potential differences in CCB graduates and non-graduates, we controlled for the same set of variables that described the social contexts and backgrounds of CCB graduates and non-graduates. To ensure robustness of our analysis, we conducted pooled and stratified analysis, had multiple model specifications, and conducted sensitivity analysis. In the interest of space, we limit the technical details here, but the results remained fairly robust across all analytic specifications and strategies.

To support readability related to the analysis for research question #2, the *Results* section will first report the results of OLS regression with covariate adjustment. These are the numbers reported in the *Executive Summary* section of this report. Three important notes relating to the inferential analysis:

1. The total annual earnings are adjusted and reflect 2024 U.S. dollars;
2. Following common practice among economic analysis, when discussing total annual earnings and median hourly wages, these reflect the conditional total annual earnings and median hourly wages (earnings and hourly wages among those who are employed) and are adjusted/controlled for potential differences by graduates/non-graduates²;
 - a. When discussing statistical significance of labor market outcomes, these are log-transformed conditional total annual earnings and median hourly wages.
3. In addition to the pooled analysis, we also conducted a stratified analysis to examine CCB completion differentials in labor market outcomes by various social contexts/backgrounds (e.g., gender, race/ethnicity, and fields of study). In the interest of space, we primarily focus on the subgroups with the most robust results and specific fields of study. When discussing the results of a specific subgroup (e.g., CISSS, Health Professions, female, or Latine graduates), the reported CCB completion differentials reflect the results of the stratified analysis where the data are filtered to examine labor market returns of CCB students of that specific subgroup only.

Because of the similarities in CCB completion differentials in labor market outcomes in the inferential analysis with the descriptive analysis, we also report the raw annual earnings of CCB graduates and non-graduates five years after CCB entry. These results are descriptive, with no covariate adjustment, but support readability and interpretation of the overall results.

² Analysis of unconditional total annual earnings and hourly median wages were also conducted, and the results were relatively similar as the conditional outcome variables.

Results

RQ1: Similarities/Differences in Social Contexts and Backgrounds Between CCB Graduates and Non-Graduates

Importantly, CCB graduates and non-graduates are not meaningfully different across multiple dimensions, such as gender, race/ethnicity, age group, socioeconomic status, and field of study. While the results were statistically significant in many cases, they are not practically different. For example, the share of Asian CCB graduates is 13% and the share of Asian CCB non-graduates is 11%; while this is statistically significant at $p < .01$, this is a minor practical difference.

However, the academic profiles and trajectories notably vary by CCB graduates and non-graduates, with CCB graduates less likely to have been enrolled part-time at entry (28% vs. 45%, respectively; $p < .001$). The majority of CCB graduates and non-graduates have previously attended a community college in Washington, with CCB graduates having done so (94% vs. 87%, $p < .001$).

Table 1. Differences in Academic Profile & Trajectories of CCB Graduates and Non-Graduates

Academic Profile & Trajectories	CCB Graduates (n = 8,927)	CCB Non-Graduates (n = 4,147)	Percentage Point Difference	Statistically Significant
Enrolled Part-Time at CCB Entry	28%	45%	-17%	$p < .001$
Previously Attended WA Community College	94%	87%	+6%	$p < .001$

Using the CIP-2 codes, the four largest fields of study by CIP-2 code are Business, Management, Marketing, & Related Services (29%), Computer & Information Sciences & Support Services (24%), Health Professions (23%), and Education (11.0%), which account for 87% of the analytic sample. CCB graduates are more likely to be in Education CCB programs relative to non-graduates (12% vs. 9%, respectively, $p < .001$). Across the three largest CIP2 programs (Business, Management, Marketing, & Related Support Services, Computer & Information Sciences & Support Services, and Health Professions), there are no statistically significant enrollment differences in CCB programs among graduates and non-graduates. There are statistically significant differences observed between Education graduates and non-graduates, but the percentage point difference is less than two percent.

RQ2: Pooled Inferential Analysis - Labor Market Returns of CCB Graduates vs. Non-Graduates

The OLS regression with covariate adjustment results reveals positive CCB completion differentials in labor market outcomes. In other words, there were positive labor market returns for CCB graduates relative to non-graduates after controlling for potential differences in social contexts/backgrounds, such as gender, race/ethnicity, socioeconomic status, etc. Three years after entering into a CCB program, graduates earned approximately 25% more annually than non-graduates. These results were positive and statistically significant at $p < .001$ and translates to about \$11,400 more in total annual earnings. By year five, this CCB differential grew as CCB graduates earned 29% more than non-graduates, or about \$14,000.

How much graduates earn per hour and how likely they are to be employed also informs our understanding of the labor market returns related to CCB programs. In years 3-5 after CCB entry, graduates earn between 17% and 19% more per hour than non-graduates with comparable social contexts and backgrounds. They are also 8 to 12 percentage points more likely to show up in employment records (i.e., be employed). The differentials in labor market outcomes between CCB graduates and non-graduates grow from year three to year five. These results were also positive and statistically significant at $p < .001$.

RQ2: Stratified Inferential Analysis - Labor Market Returns of CCB Graduates vs. Non-Graduates (Gender, Race/Ethnicity, and Fields of Study)

The stratified inferential analysis of gender, race/ethnicity, and fields of study also reveals which CCB students benefit the most from graduation. Female graduates earned 33% (~\$16,600) by year three and 41% (~\$19,400) by year five. Latine students also benefited greatly from CCB completion. Among Latine students, CCB graduates earned approximately 33% (~\$17,100) more annually three years after CCB entry relative to CCB non-graduates and this grows to 44% by year five (~\$22,300). All these results were positive and statistically significant at $p < .001$. Since CCB programs were designed to support and foster educational access, success, and equity, such labor market returns on CCB completion for Latine and female students are notable.

There were also notable differences in total annual earnings between CCB graduates and non-graduates by each of the four most popular CCB fields of study. CCB graduates in Health Professions had the largest completion differential in annual earnings. These graduates earned ~64% more annually by year three (~\$30,500) and this held relatively steady by year five (~\$29,100). Among CCB students in Education, graduates' earnings were 20-25% higher than non-graduates (~\$10,500 in year three and ~\$11,900 in year five). CCB graduates in Business, Management, Marketing, & Related Services earned 13% more than

non-graduates by year three (~\$6,100) and this difference grew to 19% by year five (~\$9,000). These results were also positive and statistically significant at $p < .001$.

CCB graduates and non-graduates in Computer & Information Sciences & Support Services had the most notable differences in total annual earnings over time. Three years after CCB entry, CCB graduates in CISSS earned 12% (~\$2,700; $p < .05$) more than non-graduates and by year five, the former earned 28% more (~\$10,700; $p < .001$). While these results are statistically significant, these results are less robust than other fields of study.

RQ2: Descriptive Analysis – Average Raw Annual Earnings CCB Graduates vs. Non-Graduates Five Years Later

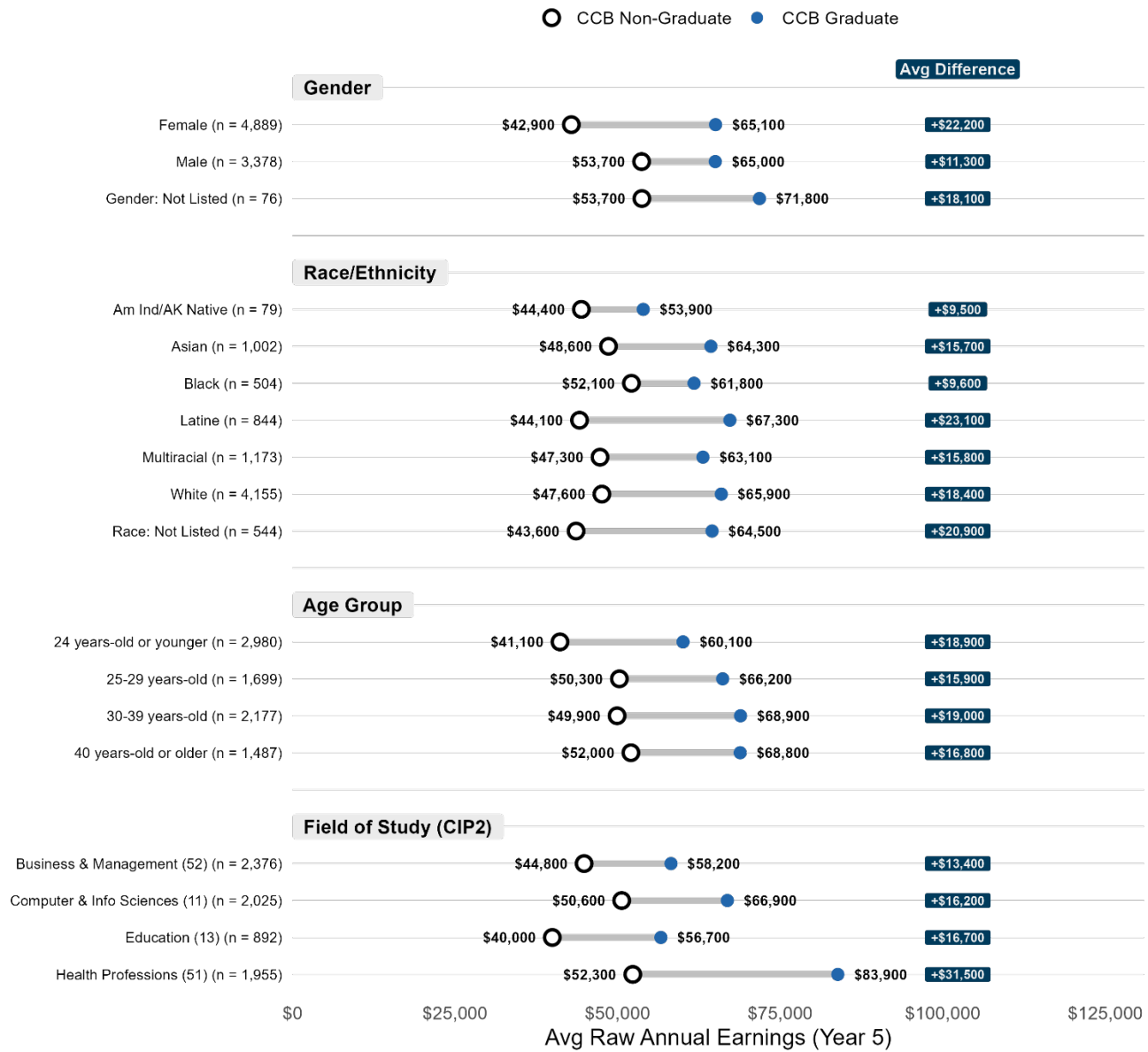
The following two sections details the descriptive analysis of total annual earnings between CCB graduates and non-graduates. In the interest of space, we focus on total annual earnings five years after CCB entry. First, we detail these earnings by gender, race/ethnicity, age group, and fields of study. Afterwards, we report on the earnings by CIP-6 programs under the Computer & Information Sciences & Support Services CIP-2 code. Across the board, CCB graduates earn more than non-graduates in this analysis that does not adjust for potential differences between graduates and non-graduates. Broadly speaking, the results here align with the inferential analysis reported in the previous two sections.

Gender, Race/Ethnicity, Age Group, and Fields of Study

When disaggregating the average raw total annual earnings between CCB graduates and non-graduates, CCB graduates consistently earn more than non-graduates. Such results speak to the value of the bachelor's degrees provided by community colleges and their value across gender, race/ethnicity, age group, and fields of study. Aligned with the inferential results, CCB graduates in identified as female, Latine, and in Health Professions experience the greatest labor market returns five years after CCB entry. Female CCB graduates earn \$22,200 more than non-graduates, Latine graduates earn \$23,100 more than non-graduates, and Health Professions CCB graduates earn \$31,500 more than non-graduates. Across all subgroups examined, CCB graduates earn anywhere between \$9,600 to \$31,500 more than their CCB non-graduate counterparts.

Figure 1. Average Raw Annual Earnings CCB Graduates vs. Non-Graduates Five Years Later (Gender, Race/Ethnicity, Age Group, and Fields of Study)

CCB Graduates vs. Non-Graduates: Avg Raw Annual Earnings, Five Years After CCB Entry



Note: Displayed average differences are rounded from the actual mean difference, not computed from each of the rounded CCB Graduate/Non-Graduate values.
All dollar amounts in 2024 dollars, adjusted using CPI-U for All Urban Consumers (BLS).

CIP-6 Programs Under Computer & Information Sciences & Support Services

Given the focus and relevance of Computer & Information Sciences & Support Services (CIP-2 Code 11) in Washington state, we also examined the labor market the average raw total annual earnings five years after entry between CCB graduates and non-graduates in different CIP-6 programs under CISSS. As displayed on Figure 1, CISSS graduates earned \$16,200 more than non-graduates. When disaggregated by specific CIP-6 programs, completion differentials in earnings vary notably by program. There are 9 CIP-6 codes under the CISSS' CIP-2 (11) with relevant data for this analysis. This includes:

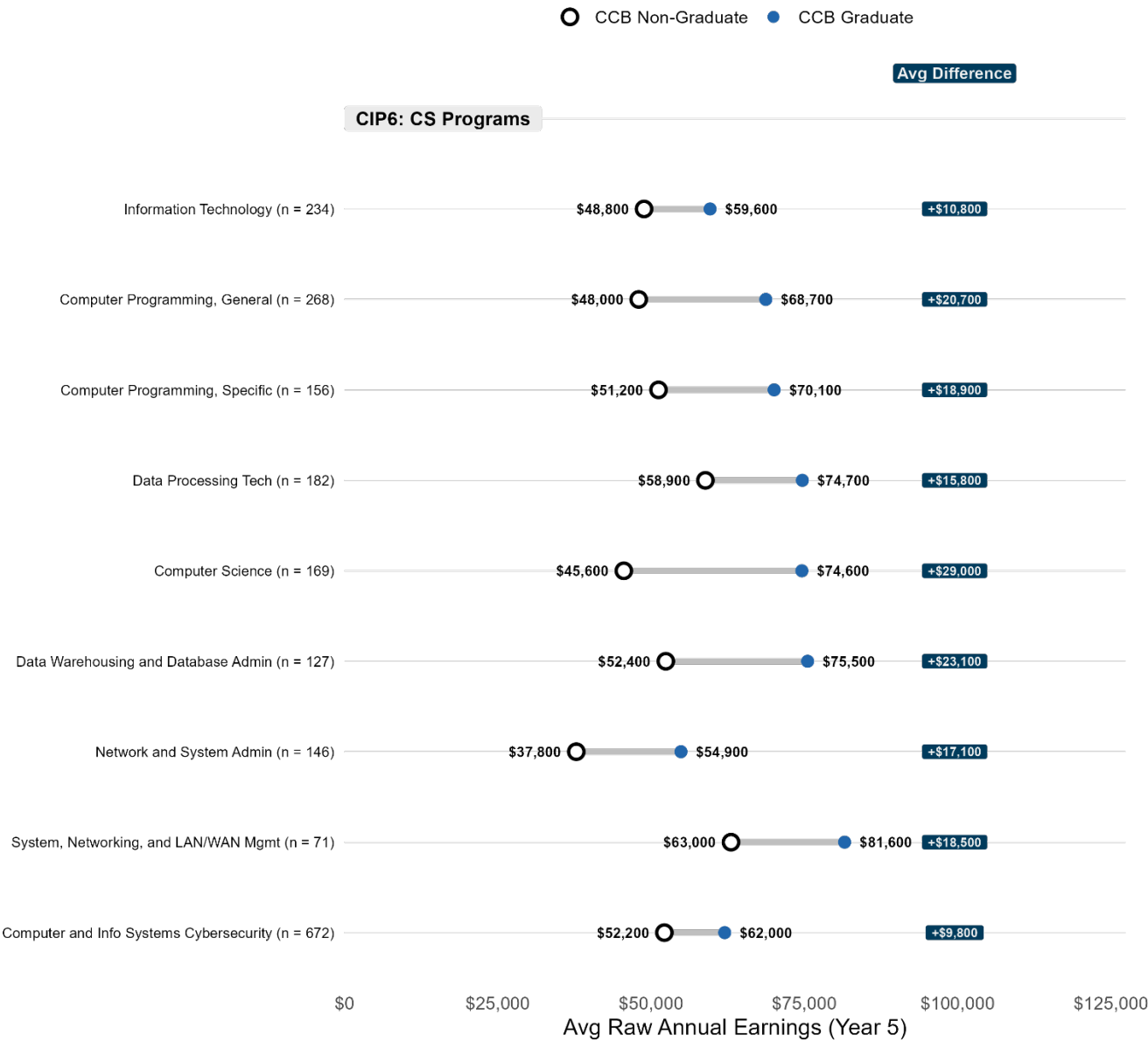
- 11.0103: Information Technology (n = 234)
- 11.0201: Computer Programming/Programmer, General (n = 268)
- 11.0202: Computer Programming, Specific Applications (n = 156)
- 11.0301: Data Processing and Data Processing Technology (n = 182)
- 11.0701: Computer Science (n = 169)
- 11.0802: Data Modeling/Warehousing and Database Administration (n = 127)
- 11.1001: Network and System Administration/Administrator (n = 146)
- 11.1002: System, Networking, and LAN/WAN Management/Manager (n = 71)
- 11.1003: Computer and Information Systems Security/Cybersecurity (n = 627)

It should be noted that the n-size varies considerably depending on the CIP-6 program; because the smaller n-size inferential analysis was not conducted and we cannot speak to the extent that these descriptive differences would be robust to the OLS regression models developed as part of the prior analysis.

The highest wages were found among students who earned degrees in CIP-6 codes associated with Computer Science (\$29,000), Data Modeling/Warehousing and Database Administration (\$23,100), Computer Programming, General (\$20,700), and Computer Programming, Specific (\$18,900). It is important to note that these students entered their CCB programs in the 2018-2019 academic year and the rapidly changing job market may not be reflected in these results. Nevertheless, students who completed a CCB degree in all CIP codes related to Computer & Information Sciences & Support Services realized significant wage increases over non-completers five years after matriculation.

Figure 2. Average Raw Annual Earnings CCB Graduates vs. Non-Graduates Five Years Later (CIP-6 Programs Under Computer & Information Sciences & Support Services)

CCB Graduates vs. Non-Graduates: Avg Annual Earnings, Five Years After CCB Entry (CIP6 = 11).



Note: Displayed average differences are rounded from the actual mean difference, not computed from each of the rounded CCB Graduate/Non-Graduate values. All dollar amounts in 2024 dollars, adjusted using CPI-U for All Urban Consumers (BLS).

Conclusion

Completing a CCB degree meaningfully improves students' earnings, hourly wages, and employment prospects. Three years after program entry, CCB graduates earned roughly 25% more annually than comparable non-graduates, about \$11,400, and that difference grew to 29% by year five. Both the hourly wage and the employment rate advantage widen over time, suggesting the value of a CCB degree accumulates rather than fades.

Consistently across all subgroups examined, CCB students benefit from their degree, highlighting the value of these bachelor's degrees. The extent to which they vary is related to gender, race/ethnicity, and field of study. Among female and Latine students, the earnings gap between graduates and non-graduates reaches approximately 33% for both groups of students, a meaningful result for educational access, success, and equity. CCB students in Health Professions show the largest differential (roughly 64% more annually by year three). Students in CISSS start modestly at 12%, but more than doubles by year five.

The results are clear: for CCB students, finishing the degree matters substantially and generally grew over time. Thus, CCB programs not only expand educational access and opportunities, but also foster economic outcomes and mobility and this is likely to have a positive impact on the communities that these colleges serve.

References

- Acton, R., Cortes, K., Miller, L., Morales, C., & Turner, J. (2025). *Community college bachelor's degrees: How CCB graduates' earnings compare to AAs and BAs*. Postsecondary Employment Outcomes Coalition. https://pseocoalition.org/wp-content/uploads/2025/07/PSEO-Coalition_Community-College-Bachelor-Degrees-How-CCB-Graduates-Earnings-Compare.pdf
- Cominole, M. B. (2017). *Employment outcomes for graduates of Washington State's applied baccalaureate degree programs* [Unpublished doctoral dissertation]. North Carolina State University. <https://repository.lib.ncsu.edu/bitstream/handle/1840.20/34781/etd.pdf?sequence=1&isAllowed=y>
- Kaikkonen, D. A., & Quarles, C. L. (2018). The effect on earnings of the applied baccalaureate degree. *Community College Review*, 46(4), 347–367. <https://doi.org/10.1177/0091552118782619>
- Love, I. (2020, October). *The baccalaureate and beyond: An analysis of demographics and labor market outcomes of Florida community college baccalaureate graduates*. New America. <https://www.newamerica.org/education-policy/reports/baccalaureate-and-beyond/>
- Meza, E., & Bragg, D. D. (2022). Scaling up community college baccalaureates in Washington State: Labor market outcomes and equity implications for higher education. *Education Policy Analysis Archives*, 30, Article 140. <https://epaa.asu.edu/index.php/epaa/article/view/6834>

Acknowledgements

The authors would like to thank Joyce Hammer, Ken Hang and Summer Kenesson from the Washington State Board for Community and Technical Colleges for research collaboration and advice as well as SBCTC research staff Diana Knight and Megan Moon. Debra and Mike Bragg and Cecilia Rios-Aguilar and Kevin Eagan provided guidance and thought partnership for the analysis and findings in this report.

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