



VLDS

College and employment outcomes four years after high school for CTE completers in Virginia

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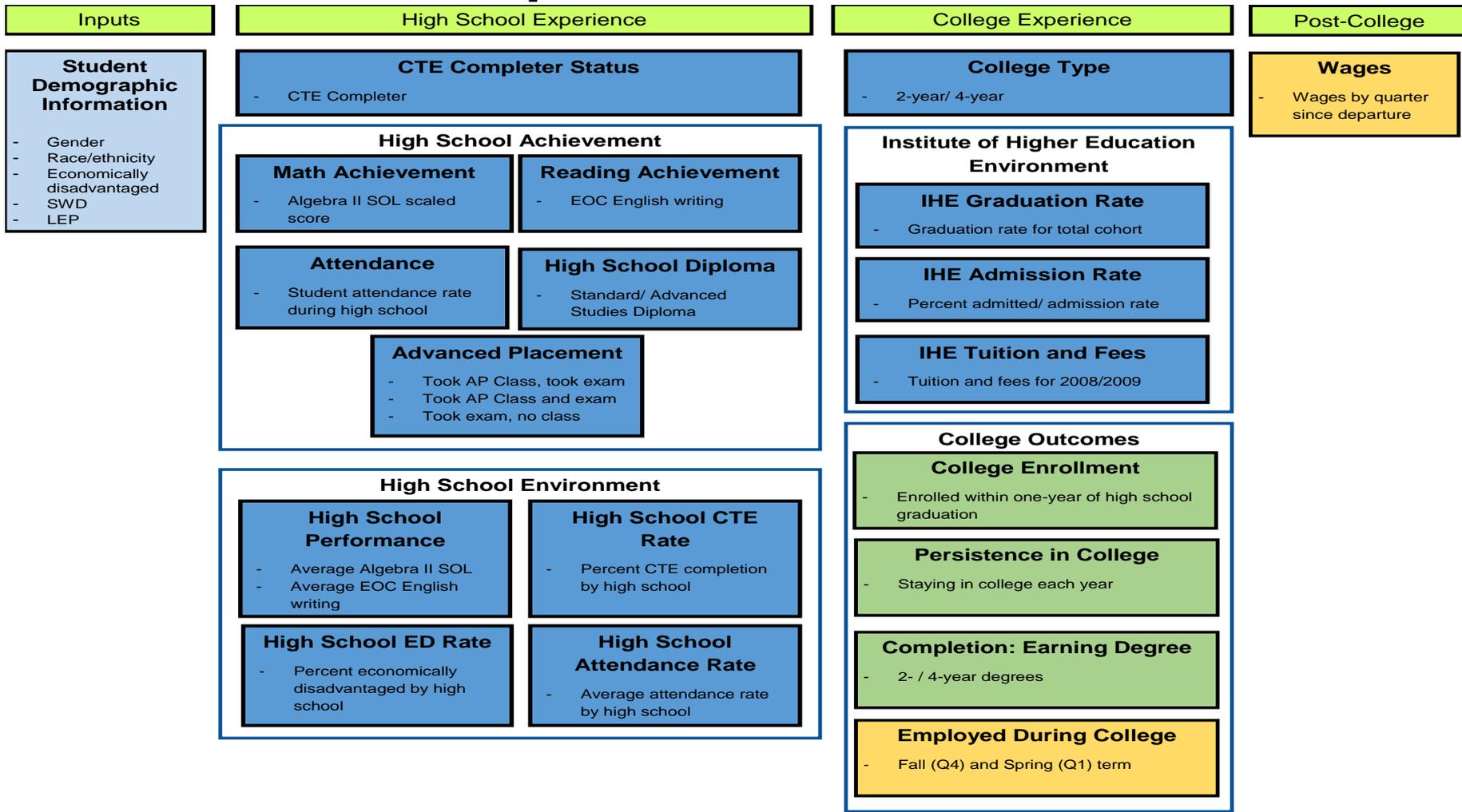
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VLDS Insights Conference

Project Focus

- Understand long-term outcomes for CTE completers
 - Postsecondary enrollment
 - Employment
- “Long-term” is a maximum of four years, based on available data

Conceptual Framework



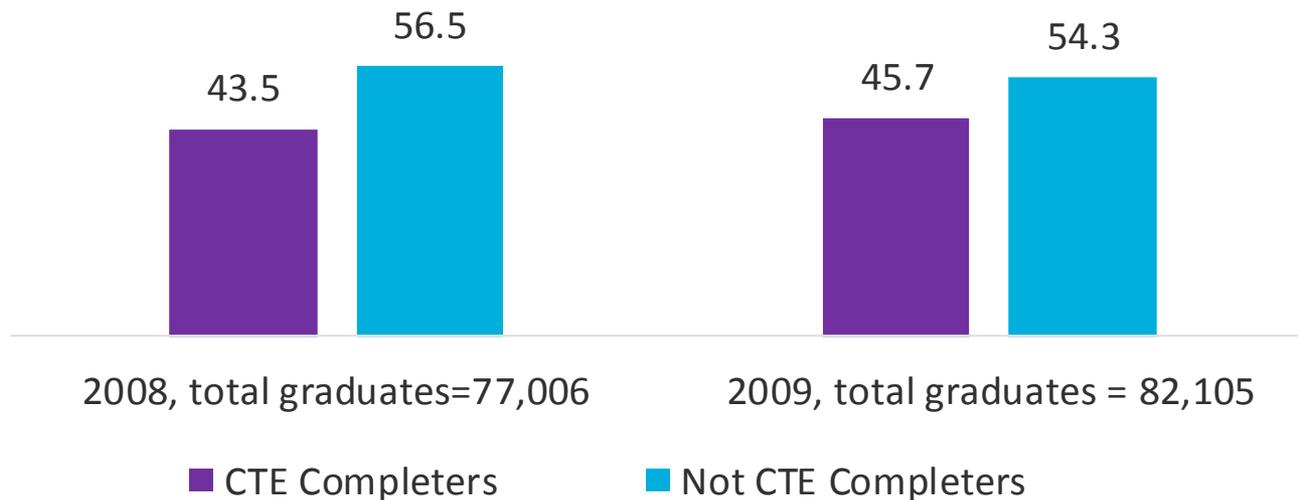
Who were CTE completers in 2008 and 2009?

On average, CTE completers had lower high school achievement, and were more likely to be: economically disadvantaged, male, and African American students relative to non-completers.

| Descriptive indicator | CTE Completers | | Not CTE completers | |
|--------------------------------------|----------------|------|--------------------|------|
| | 2008 | 2009 | 2008 | 2009 |
| Student achievement variables | | | | |
| Earned Standard diplomas (%) | 50 | 50 | 37 | 37 |
| Earned Advanced Studies diplomas (%) | 46 | 46 | 60 | 58 |
| Algebra II scaled score (mean) | 505 | 507 | 509 | 511 |
| Not taking Algebra II (%) | 19 | 15 | 16 | 12 |
| Writing scaled score (mean) | 509 | 515 | 523 | 529 |
| Attendance rate | 94 | 94 | 94 | 94 |
| No Advanced Placement courses (%) | 77 | 77 | 60 | 60 |
| Demographic variables | | | | |
| Asian (%) | 5 | 5 | 6 | 7 |
| African American (%) | 27 | 28 | 21 | 22 |
| Hispanic (%) | 5 | 6 | 6 | 6 |
| White (%) | 62 | 60 | 65 | 63 |
| Economically disadvantaged (%) | 22 | 25 | 16 | 18 |
| Male (%) | 52 | 53 | 46 | 46 |

In both years, CTE completers represented just under half of the high school graduates

Percent of Virginia graduates who completed CTE programs of study

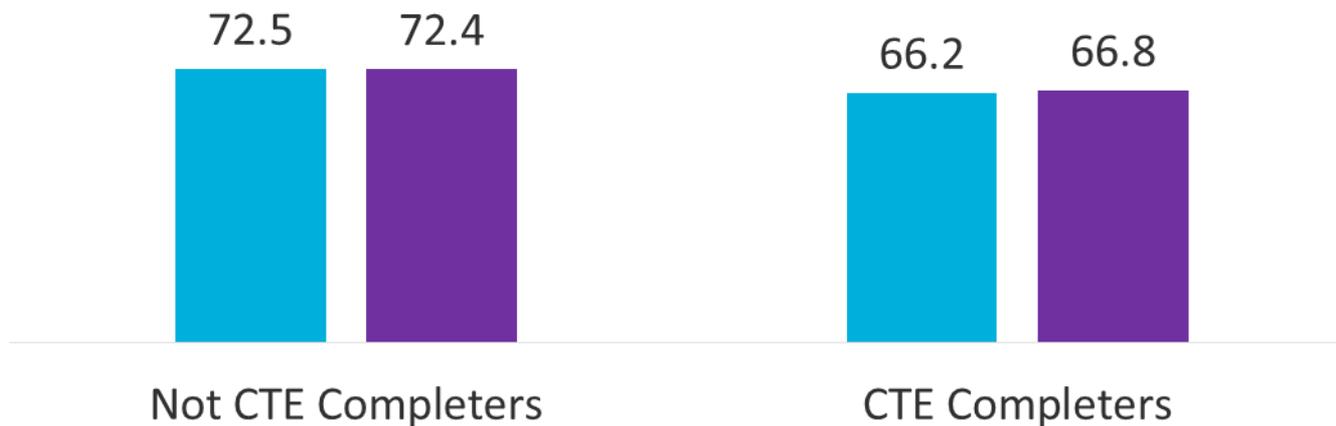


Postsecondary Outcomes

What were the postsecondary enrollment outcomes for CTE completers?

Overall, a smaller percentage of CTE completers enrolled in college than non-completers

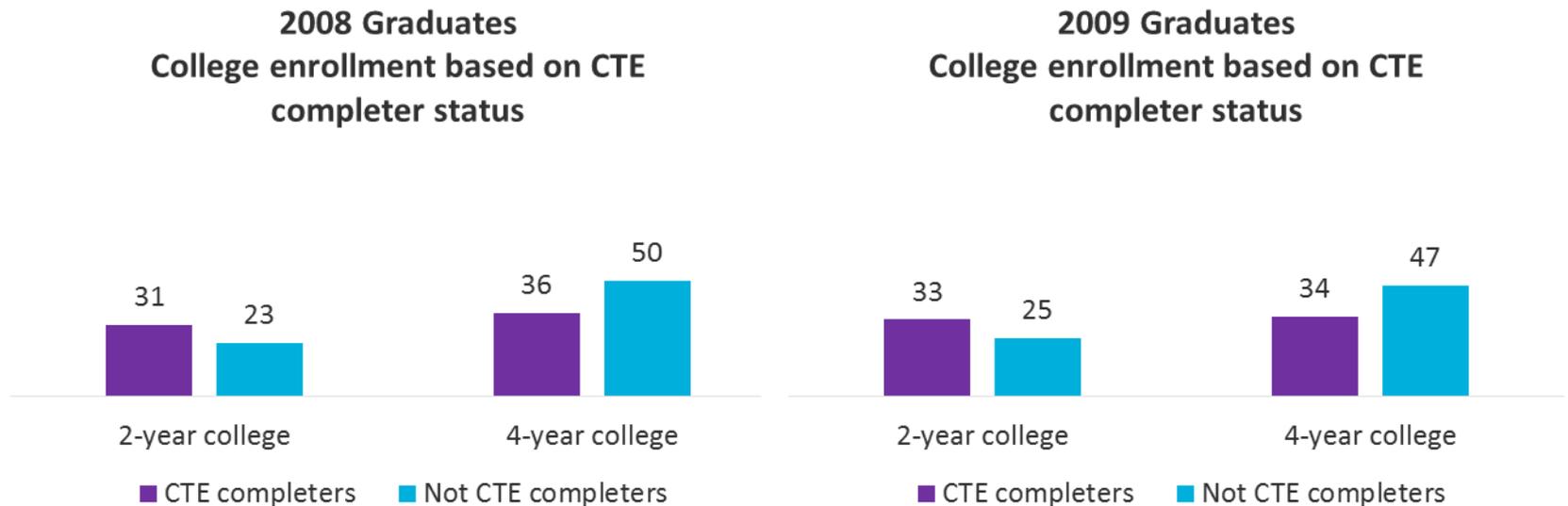
Percent of Virginia graduates who enrolled in college within one-year of high school graduation



- 2008, total graduates=77,006
- 2009, total graduates = 82,105

Overall, non-completers were more likely to enroll in a four year IHE than CTE completers

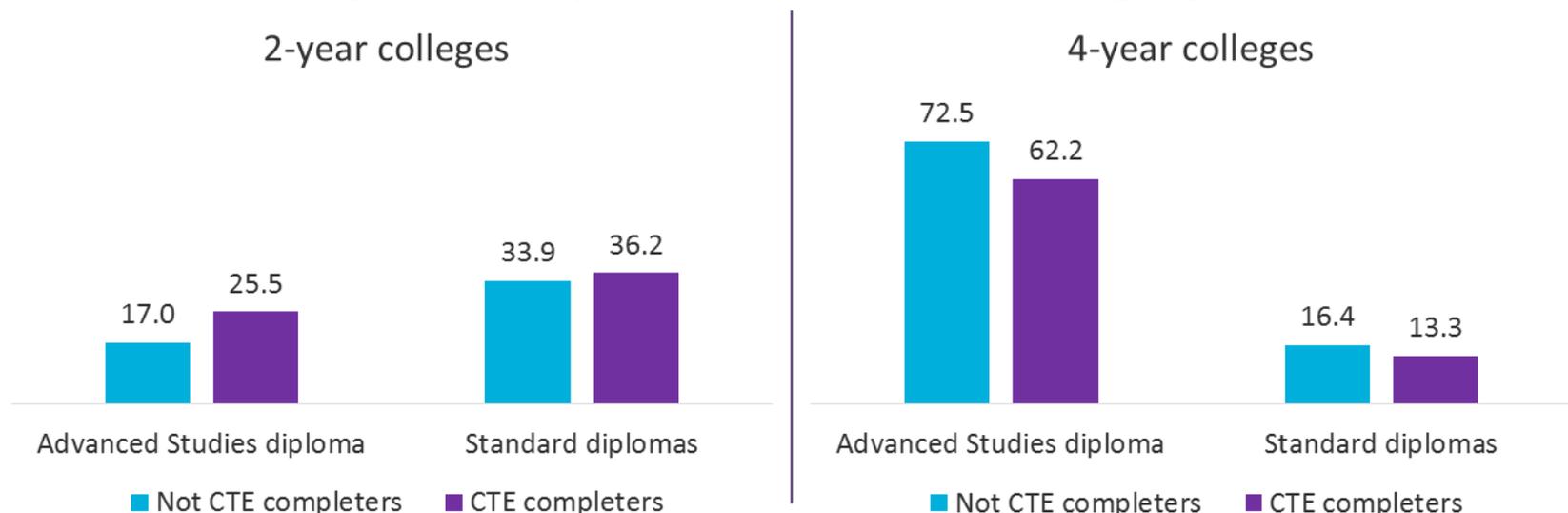
- CTE completers were about 20% less likely than non-completers to enroll in 4-year college after controlling for students' high school achievement, demographic characteristics, and school-level outcomes.
- There were no differences in 2-year college enrollment after controlling for high school achievement, student demographics, and school-level achievement.



Diploma-type matters more than any other factor in our statistical models

- Students who earned Advanced Studies diplomas were 7.5 to 8.5 times more likely to enroll in 4-year colleges, relative to Standard diploma-earners, regardless of CTE status.*
- Advanced Studies diploma-earners were 2.4 times more likely to enroll in 2-year colleges than Standard-diploma earners.*

Percent of high school graduates who enrolled in college by diploma type, CTE status, and college type



2008 high school graduating cohort

*After controlling for high school achievement, student demographic characteristics, and average school-level achievement. Estimates derived from a multinomial logistic regression with clustered standard errors at the students' last high school.

What were the postsecondary persistence
and completion outcomes for CTE
completers?

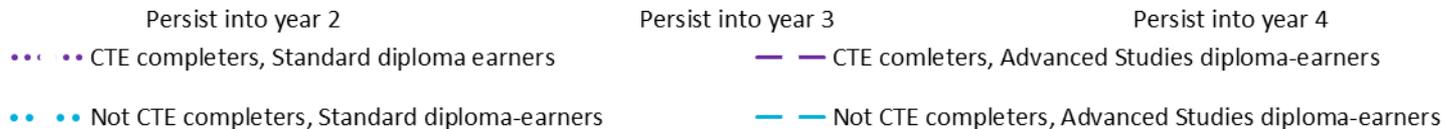
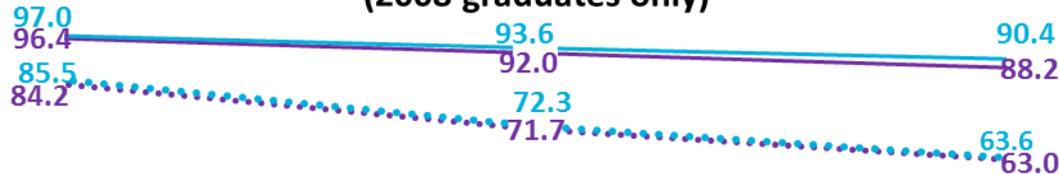
CTE completion status had no association with persistence in 2- or 4-year IHE.

- For those enrolled in 2-year colleges, Advanced Studies diploma-earners were 2.4 times more likely to persist into their fourth year than Standard diploma-earners*
- For those enrolled in 4-year colleges, Advanced Studies diploma-earners were more than 3 times more likely to persist into their fourth year*

Persistence in 2-year colleges (2008 graduates only)



Persistence in 4-year colleges (2008 graduates only)



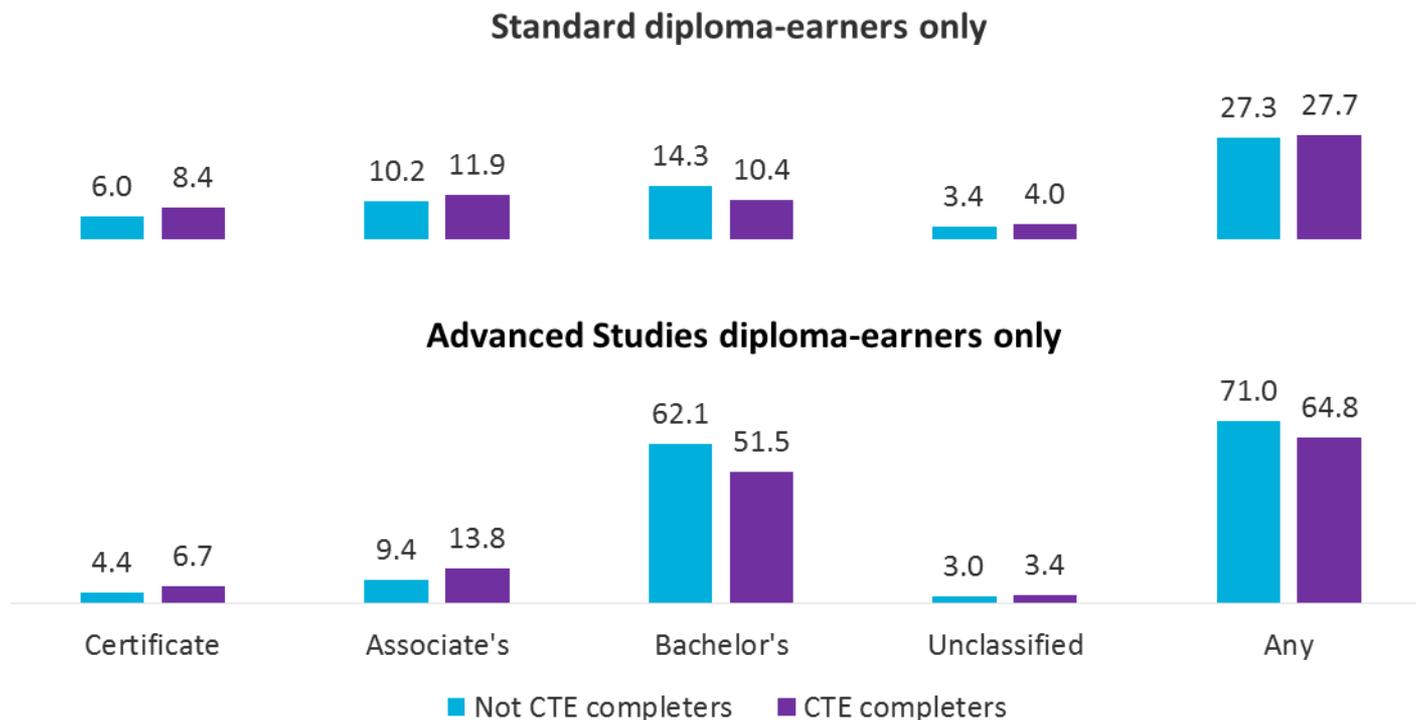
*After controlling for high school achievement, student demographic characteristics, and average school-level achievement. Estimates derived from a multinomial logistic regression with clustered standard errors at the students' last high school.

For college-enrolled high school graduates, CTE completers were slightly more likely to earn Associates degrees than non-completers.

- There were no differences in college-enrolled completer and non-completers' likelihood of earning Bachelor's degrees.*

- When considering all high school graduates (included college-enrolled and not), CTE completers were slightly less likely to earn bachelor's degrees than non-completers.*

Percent of 2008 high school graduates who earned a credential within four years



*After controlling for high school achievement, student demographic characteristics, and average school-level achievement. Estimates derived from a multinomial logistic regression school with clustered standard errors adjusted at the students' IHE.

With respect to CTE status, after controlling for high school achievement, student demographic characteristics, and school-characteristics:

CTE completers had a slightly better chance than non-completers of:

- Earning an Associate's degree, if they enrolled in college

CTE completers and non-completers had the same chances of:

- Enrolling in 2-year colleges
- Persisting in two- and 4-year colleges
- Earning a 4-year degree *if* they enrolled in college within one-year of high school

CTE completers had a slightly lower chance than non-completers of:

- Enrolling in 4-year colleges
- Earning 4-year college degrees, as a result of being less likely to enroll in 4-year colleges.

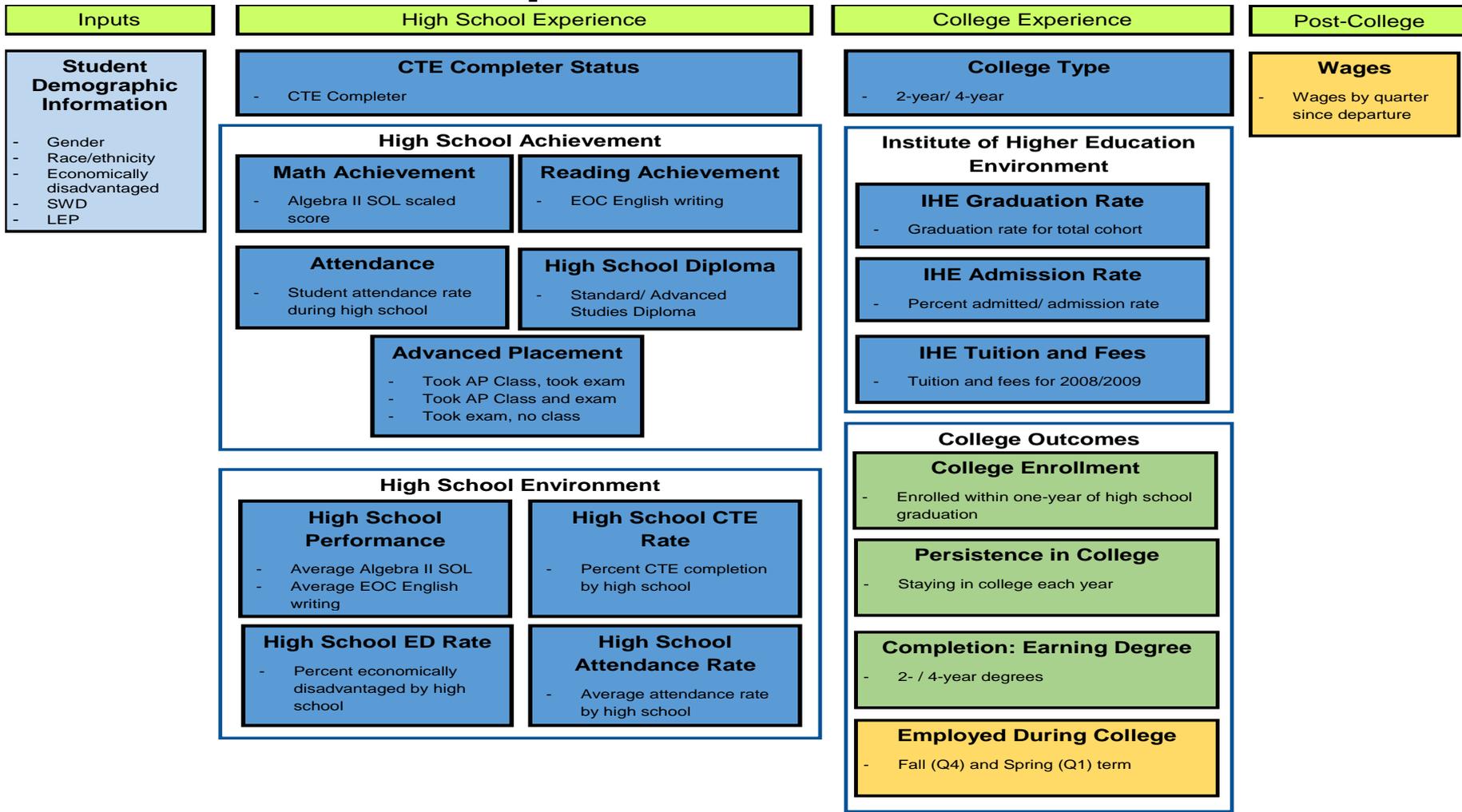
While this study focused on CTE completion status, the data showed that for CTE completers and non-completers...

Taking the right courses, as represented by earning an Advanced Studies diploma, is the most important factor in predicting high school graduates' college enrollment, persistence and completion.

- Students who earned an Advanced Studies diploma were:
 - More than 2 times more likely than Standard diploma earners to enroll in a 2-year college
 - More than 7.5 times more likely to enroll in a 4-year college
 - Two- to three-times more likely to persist in college for at least 4 years
 - Four times more likely to earn a bachelor's degree within four years
- Other factors, such as participation in college-level coursework while in high school and demographic characteristics such as economically disadvantaged status and student ethnicity were also associated with college enrollment and success. But not as strongly as diploma type, which represents students course of study in high school.

Employment outcomes

Conceptual Framework



Data Limitations

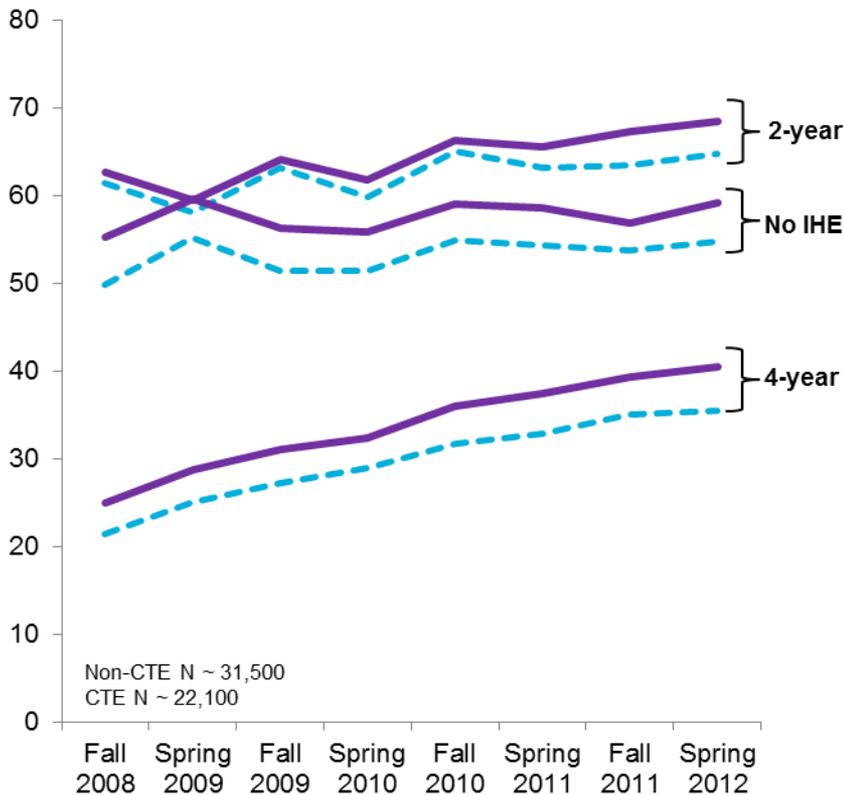
- Employment data are limited to:
 - Only VDOE graduates who enrolled in an IHE that reported data to SCHEV
 - Wages for those employed in Virginia by an entity that reports Unemployment Tax to the VEC
- Concurrent enrollment and employment outcome blunt and imprecise
- Wages truncated due to study period

VLDS cannot provide information for students who graduate from high school and go directly into the workforce or military without any Virginia IHE enrollment.

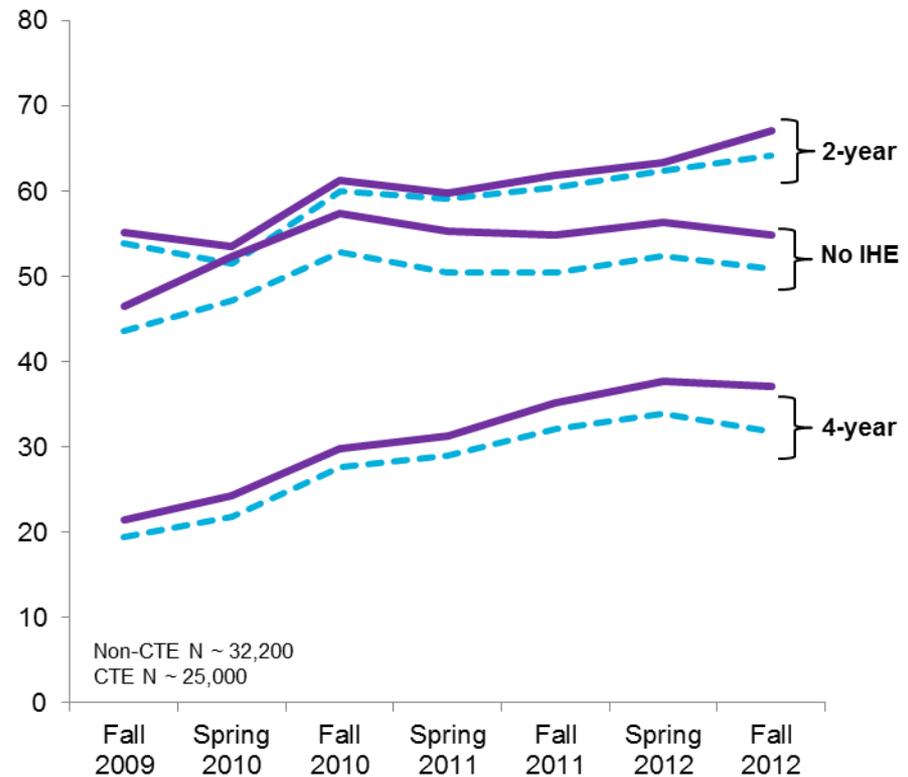
Are CTE students employed during college
more than non-CTE students?

Yes! More CTE Students are Employed During College

Percent Employed During College (2008)



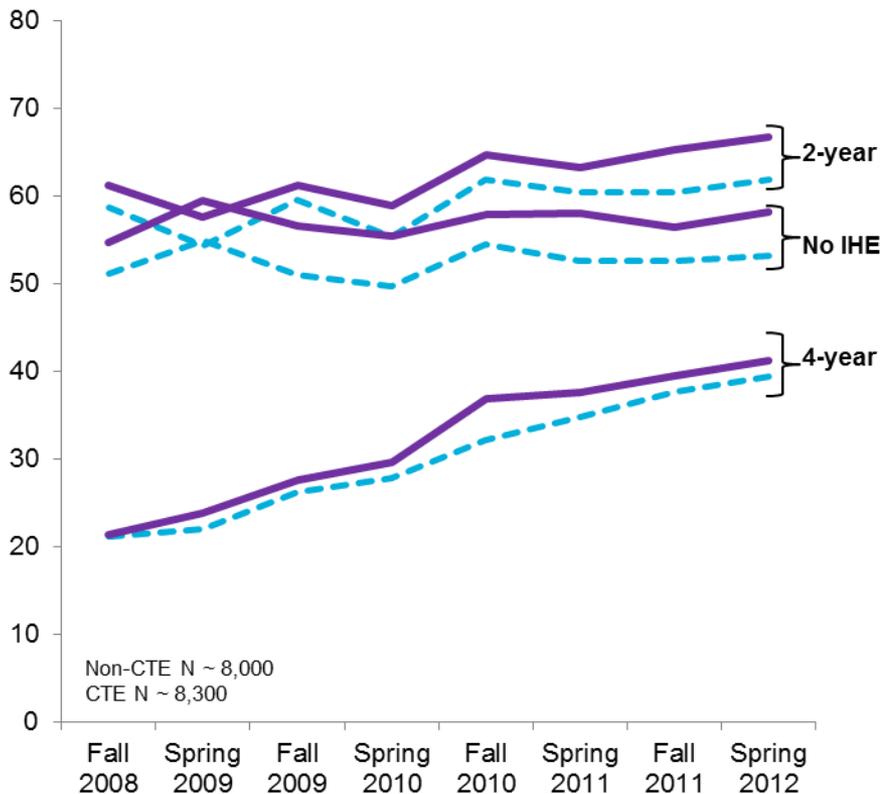
Percent Employed During College (2009)



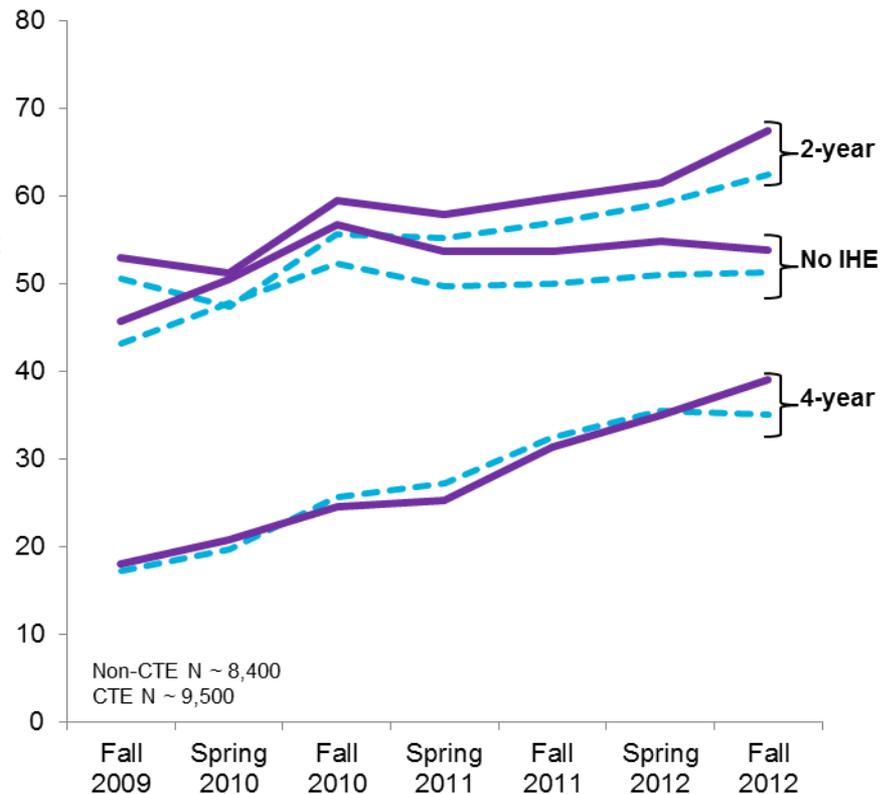
— CTE Completer
- - - Non-CTE Completer

The Pattern Holds for Students with Standard Diplomas

Percent Employed During College, Standard Diploma (2008)



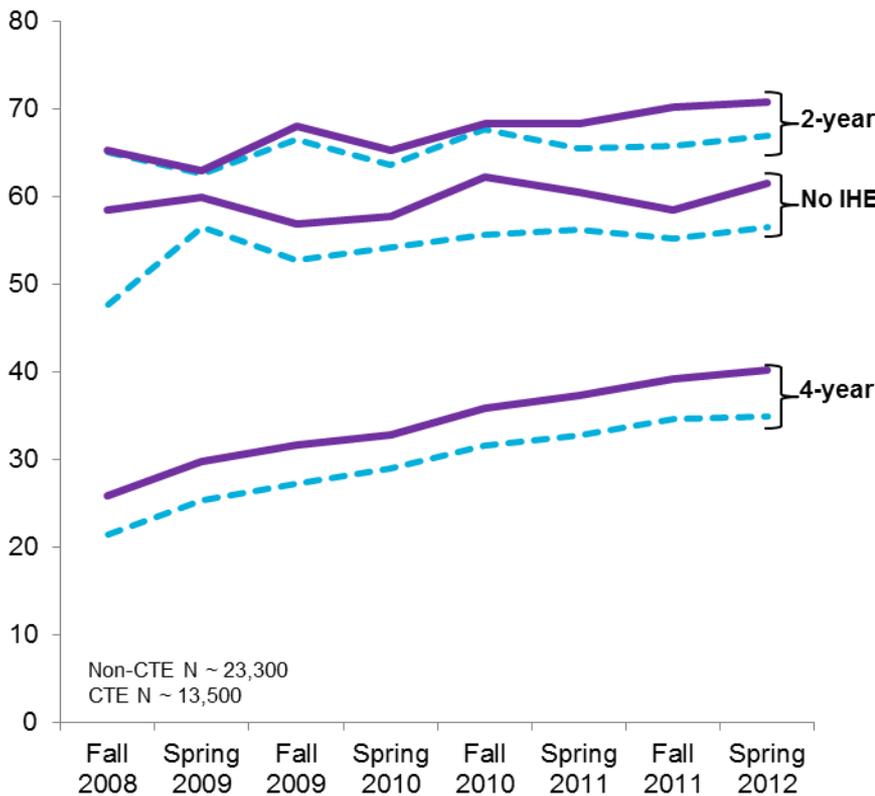
Percent Employed During College, Standard Diploma (2009)



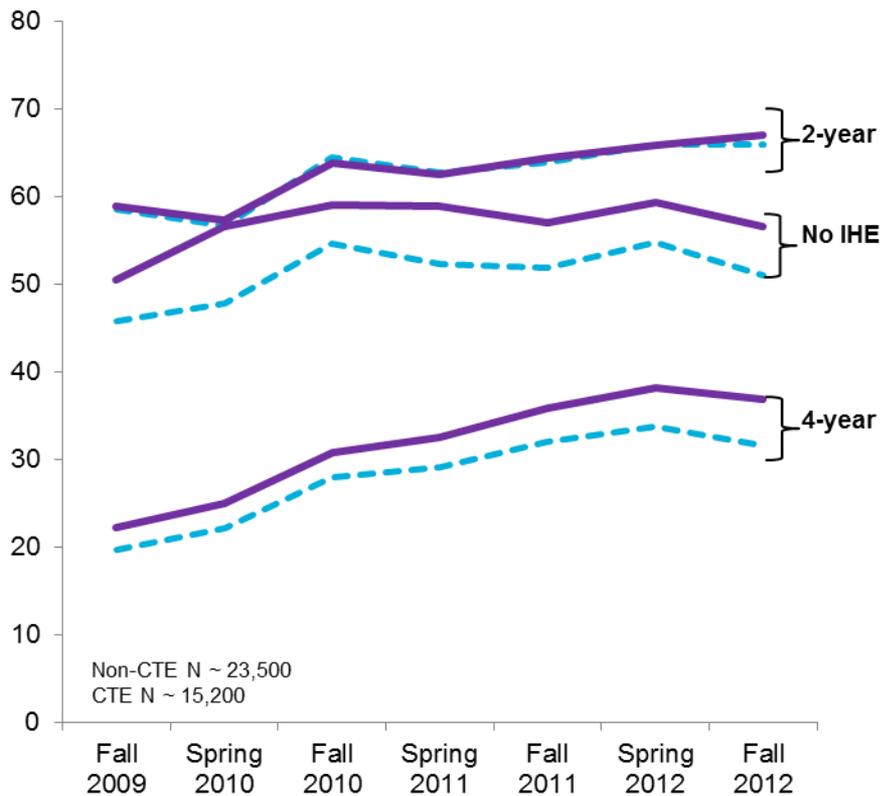
— CTE Completer
- - - Non-CTE Completer

And...The Pattern Holds for Students with Advanced Studies Diplomas

Percent Employed During College, Advanced Studies diploma: 2008



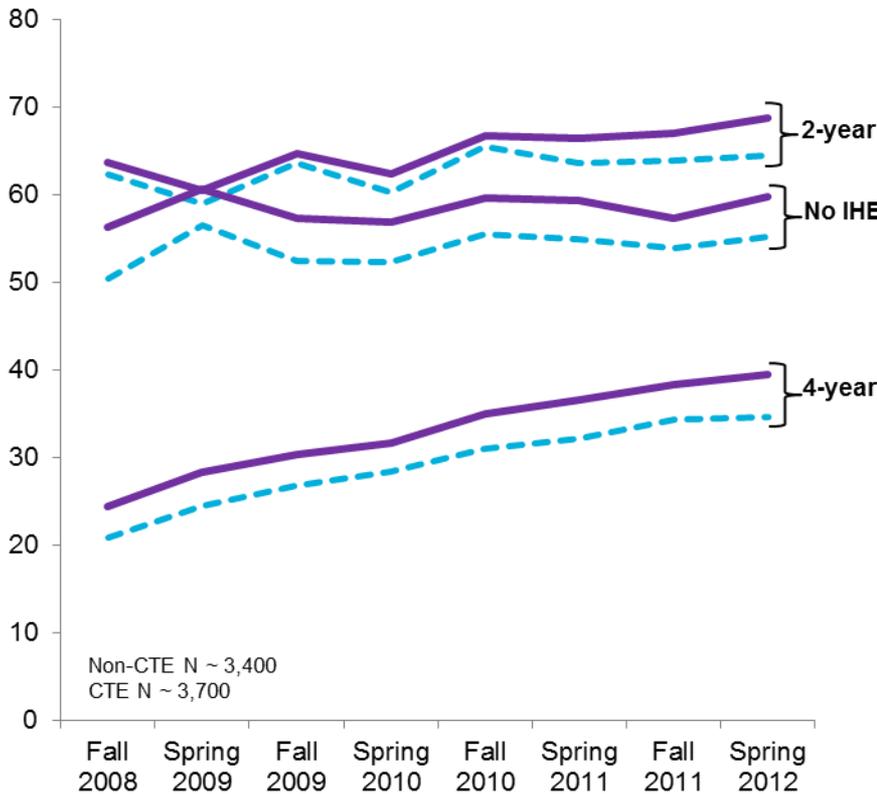
Percent Employed During College, Advanced Studies diploma: 2009



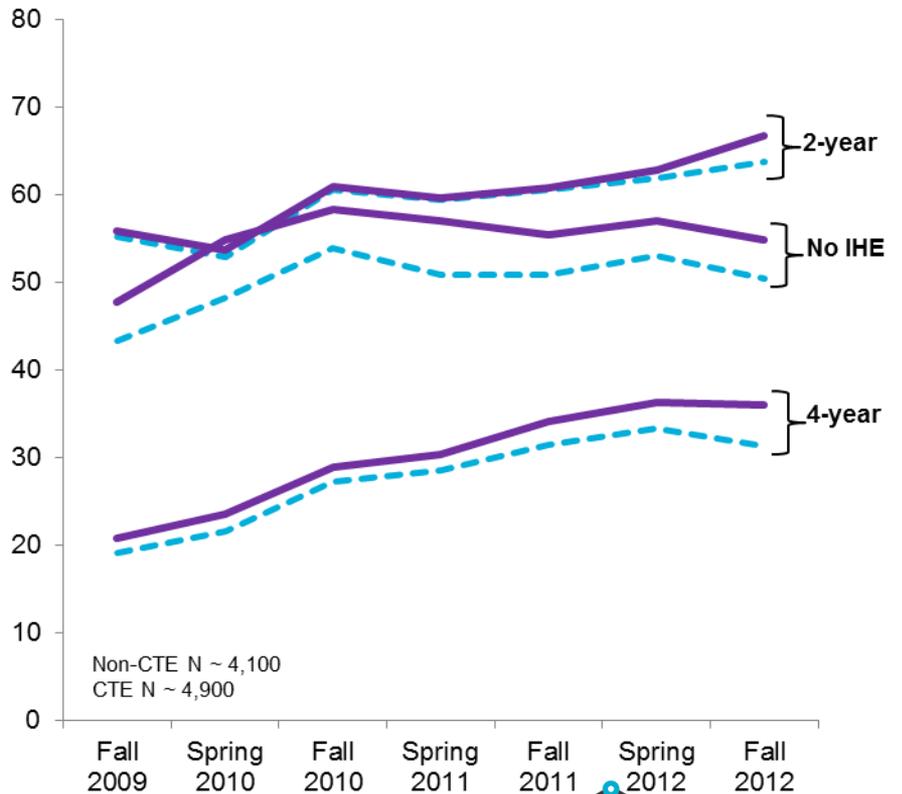
— CTE Completer
- - - Non-CTE Completer

And...The Pattern Holds for Students who are Not Economically Disadvantaged

Percent Employed During College, Not ED: 2008



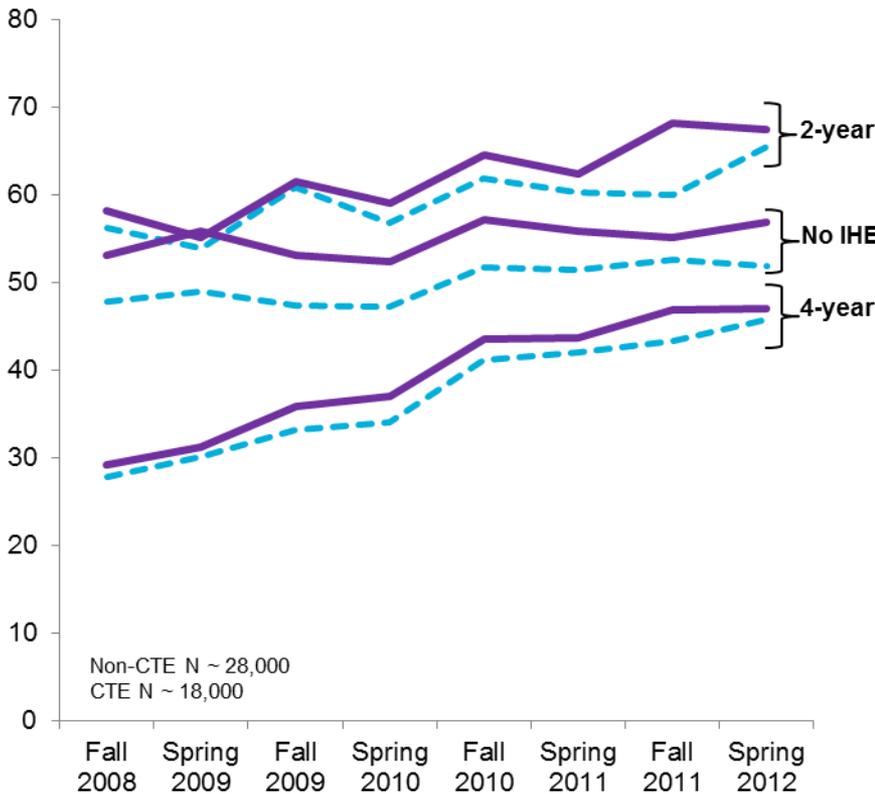
Percent Employed During College, Not ED: 2009



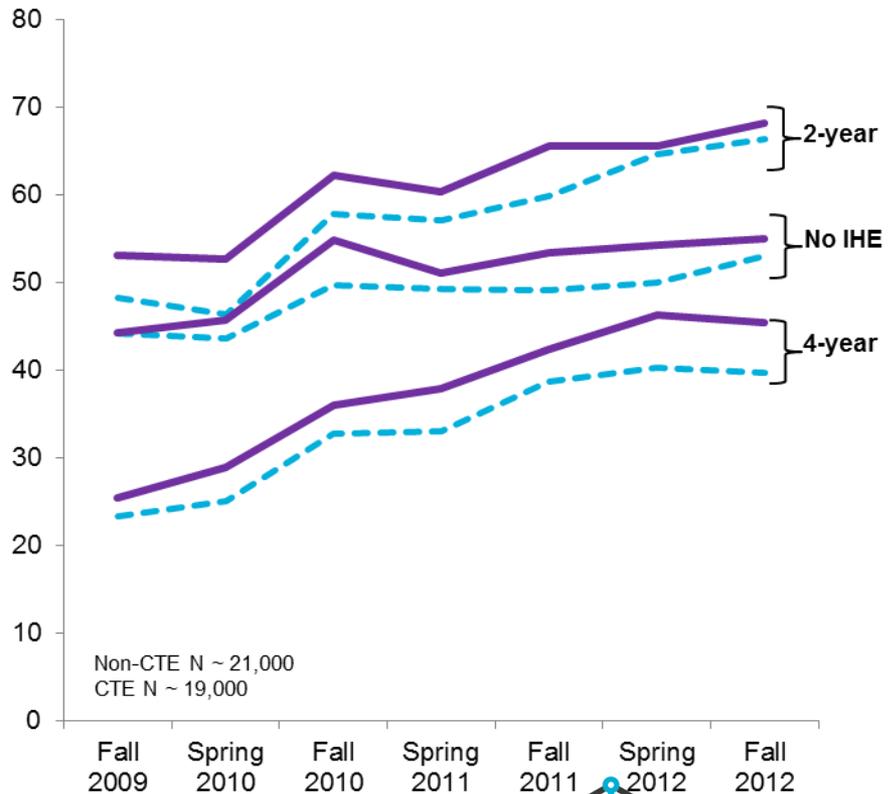
— CTE Completer
- - Non-CTE Completer

And Finally...The Pattern Holds for Economically Disadvantaged Students

Percent Employed During College, ED: 2008



Percent Employed During College, ED: 2009

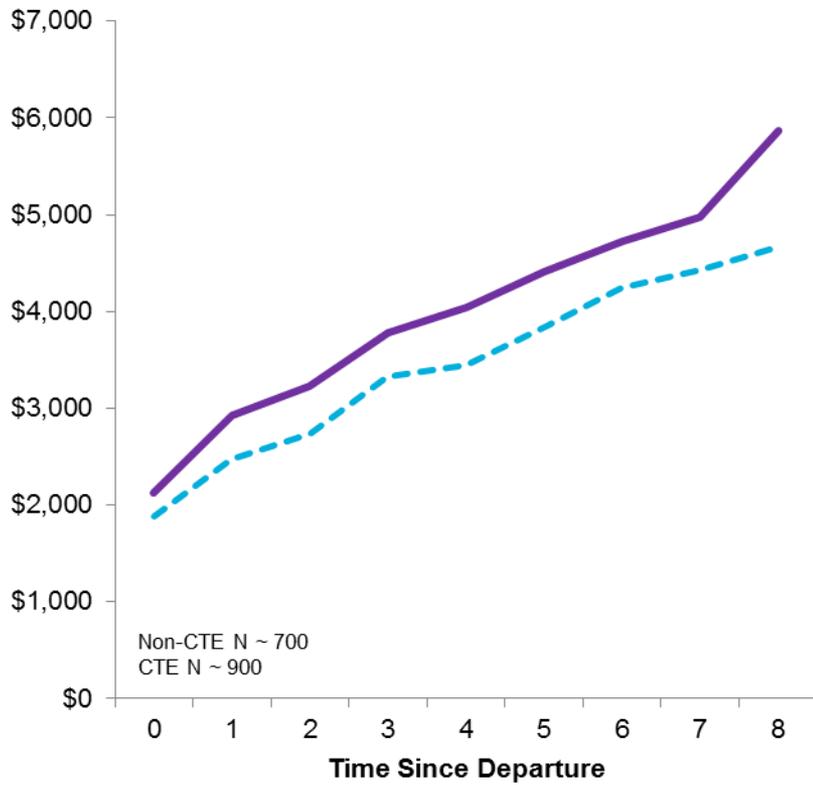


— CTE Completer
- - Non-CTE Completer

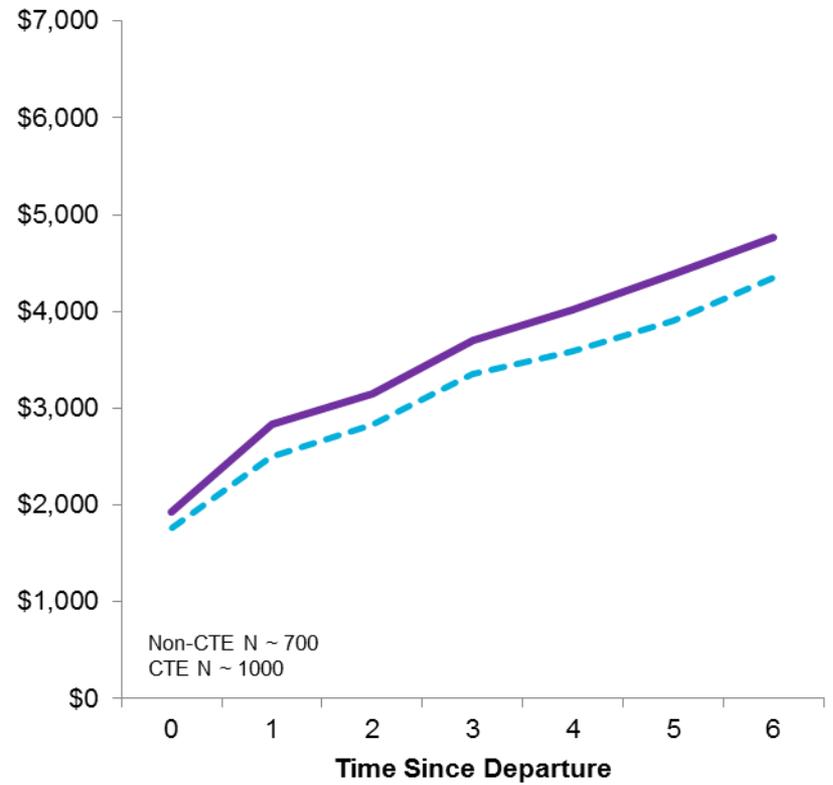
Do CTE students have higher wages after leaving college than non-CTE students?

Yes! Wages were higher for CTE Students who earned Standard Diplomas

Wages by Quarter Post-College, Standard Diploma (2008)



Wages by Quarter Post-College, Standard Diploma (2009)

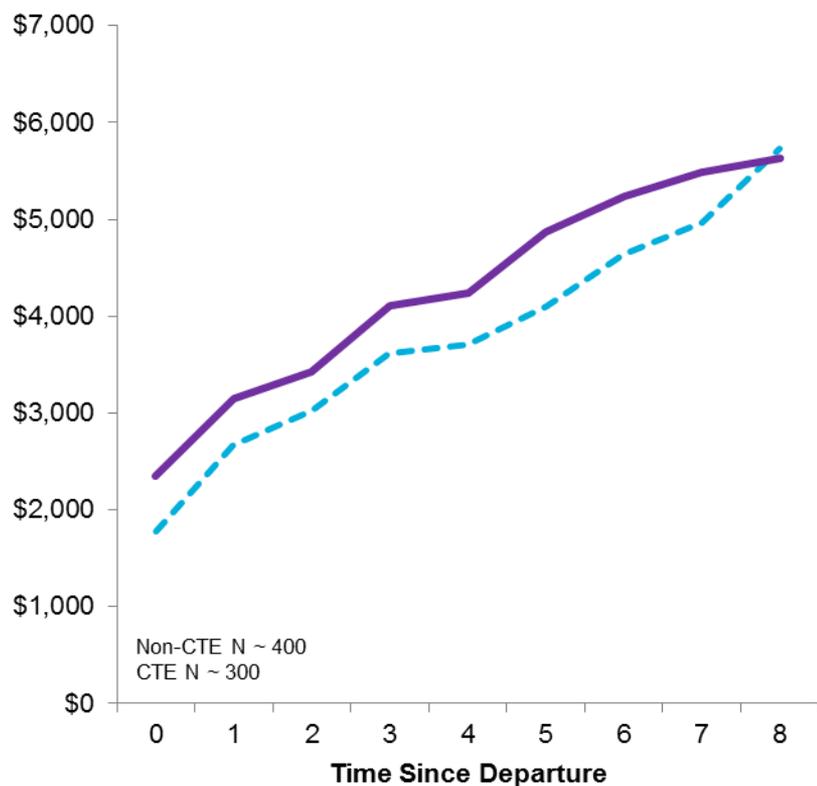


— CTE Completer
- - - Non-CTE Completer

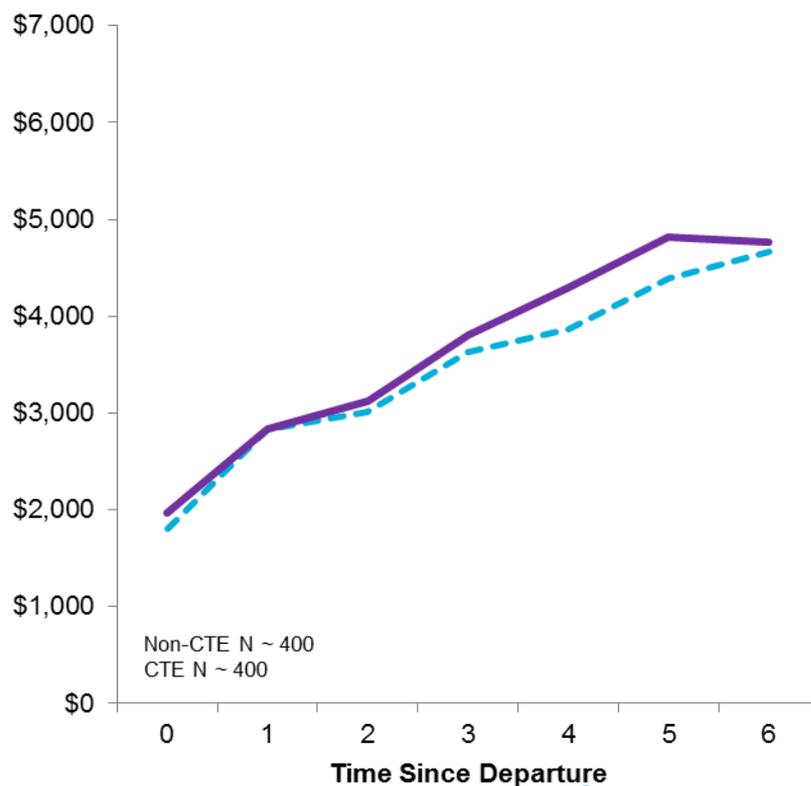
See slide 19 for data limitations and cautions in applying results

Wages were similar over time for students who earned Advanced Studies Diplomas

Wages by Quarter Post-College, Advanced Studies Diploma (2008)



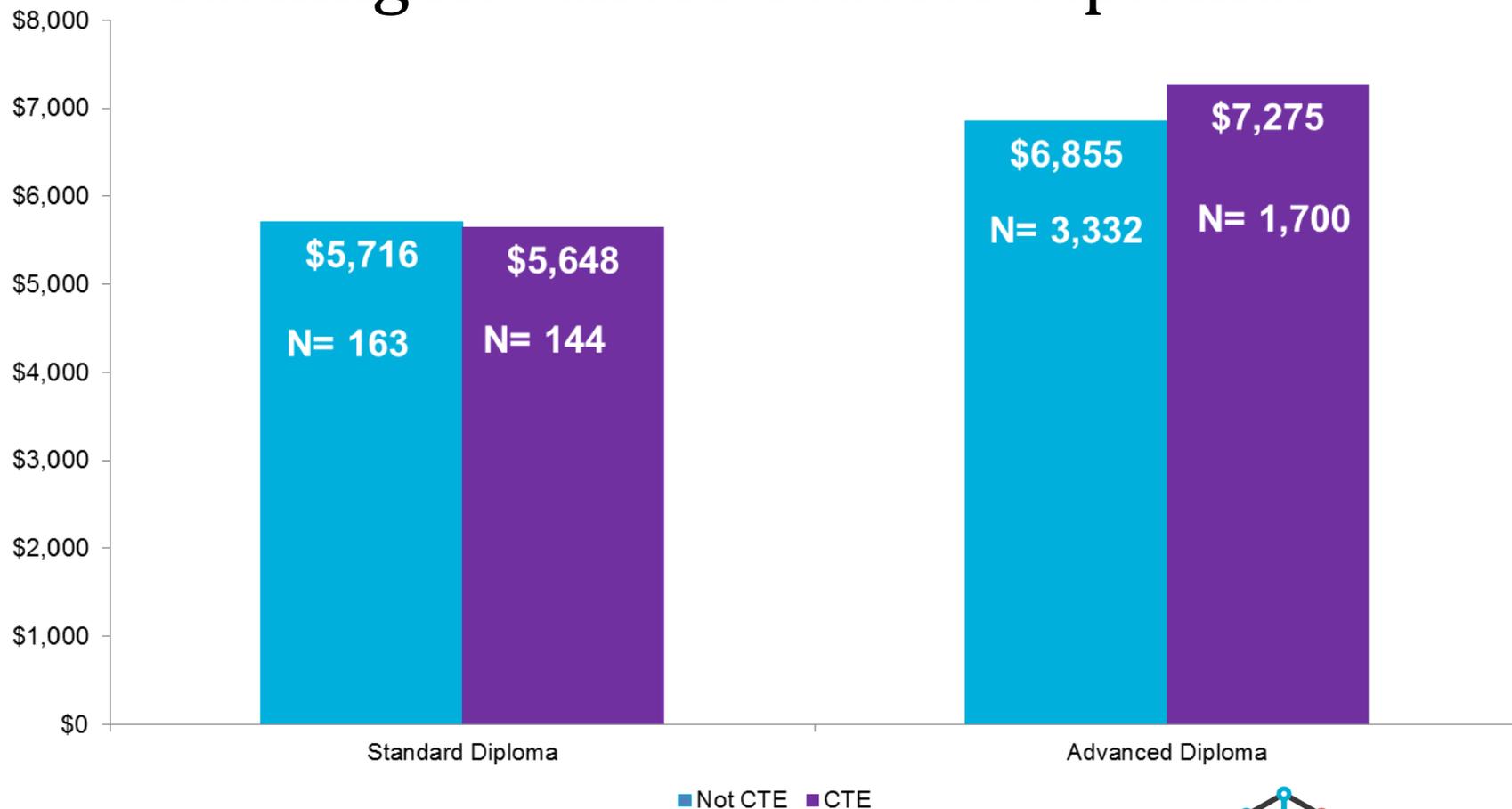
Wages by Quarter Post-College, Advanced Studies Diploma (2009)



— CTE Completer
- - Non-CTE Completer

See slide 19 for data limitations and cautions in applying results

Of students who earned BA/Associate's degrees in 2012, wages were higher for CTE completers earning Advanced Studies diplomas



Note: 2008 cohort only. Wage at 3-months after graduating with BA/Assoc degree.
See slide 19 for data limitations and cautions in applying results



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