

# Pathways to Boosting the Earnings of Low-Income Students by Increasing their Education Attainment

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# Introduction

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- For over 25 years, the earnings gap between those with and without a college degree has been widening
- Gates Foundation goal:
  - Increase the earnings of low-income students by doubling their attainment of postsecondary credentials.
- Goals of this study:
  - For high performing high schoolers-- determine how **credential attainment** of low-income students compares to that of higher income students.
  - For low performing high schoolers-- determine the extent to which they could raise their earnings by better selecting **postsecondary fields of study**.

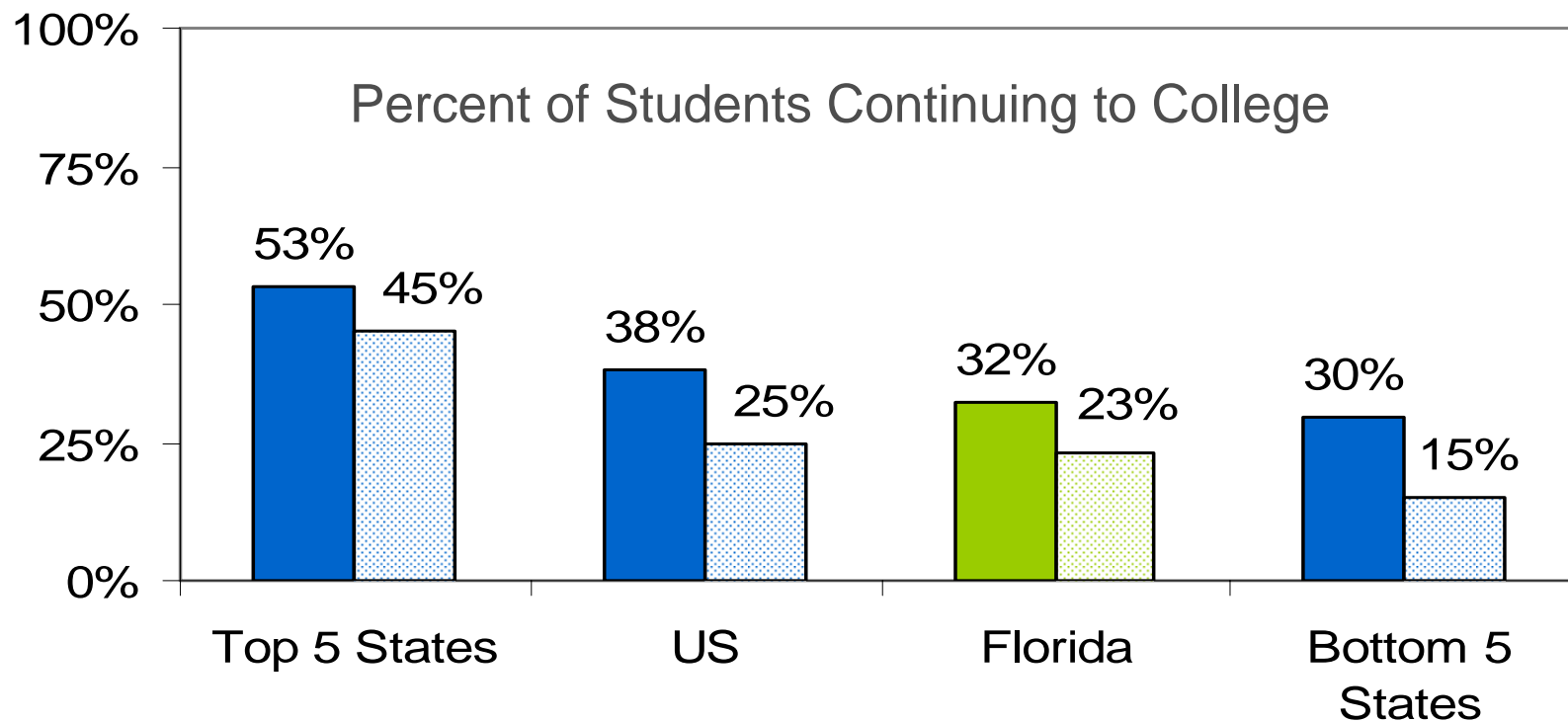
# Policy-Related Questions

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- What are the educational pathways to high paying jobs that keep students out of poverty as adults?
- How do these pathways differ for students whose high school performance differs?
- To what extent do low-income students take advantage of pathways open to them?

# College continuation rates in FL are just below average for low-income students and below average for all students

Percent of 9<sup>th</sup> Graders Continuing to College, 2000



Solid bar = All Students

Shaded bar = Low-Income Students

# Bright Future Scholarships Encourages College Attendance

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- 100% tuition and fees
- Specified amount for college-related expenses
- Eligibility requirements
  - College preparatory courses
  - Community service
  - Minimum ACT/SAT score
  - HS GPA of B or better for 4-year colleges, or
  - C or better for 2-year colleges
- Started in the Fall 1997

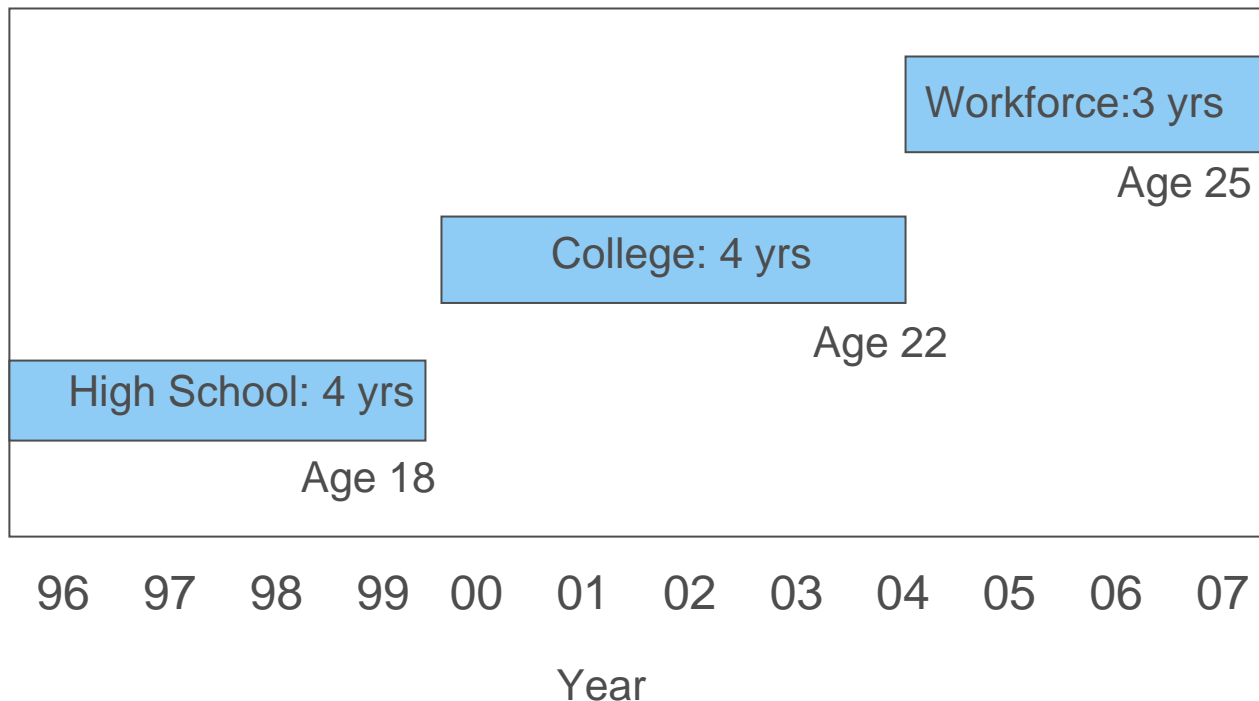
# The database

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- Tracks all 225,000 students attending Florida public high schools in 1996 through high school, into college, and into the workforce 1996-07.
- Information:
  - **High school transcripts** —course name, when taken, grade.
  - **Attendance and enrollment** —days present/absent each year
  - **Demographics** —age, race, sex, and low-income (receipt of Free and Reduce Price Lunches (FRLs)).
  - **SAT/ACT test scores.**
  - **College transcripts** —course name, grade, when taken, institution.
  - **College credentials** —receipt of certificates and degrees.  
Certificates are awarded for attainment of career-oriented skills such as IT—programming, health—phlebotomist, trades—plumbing.
  - **Wage records** —quarterly earnings from each employer.

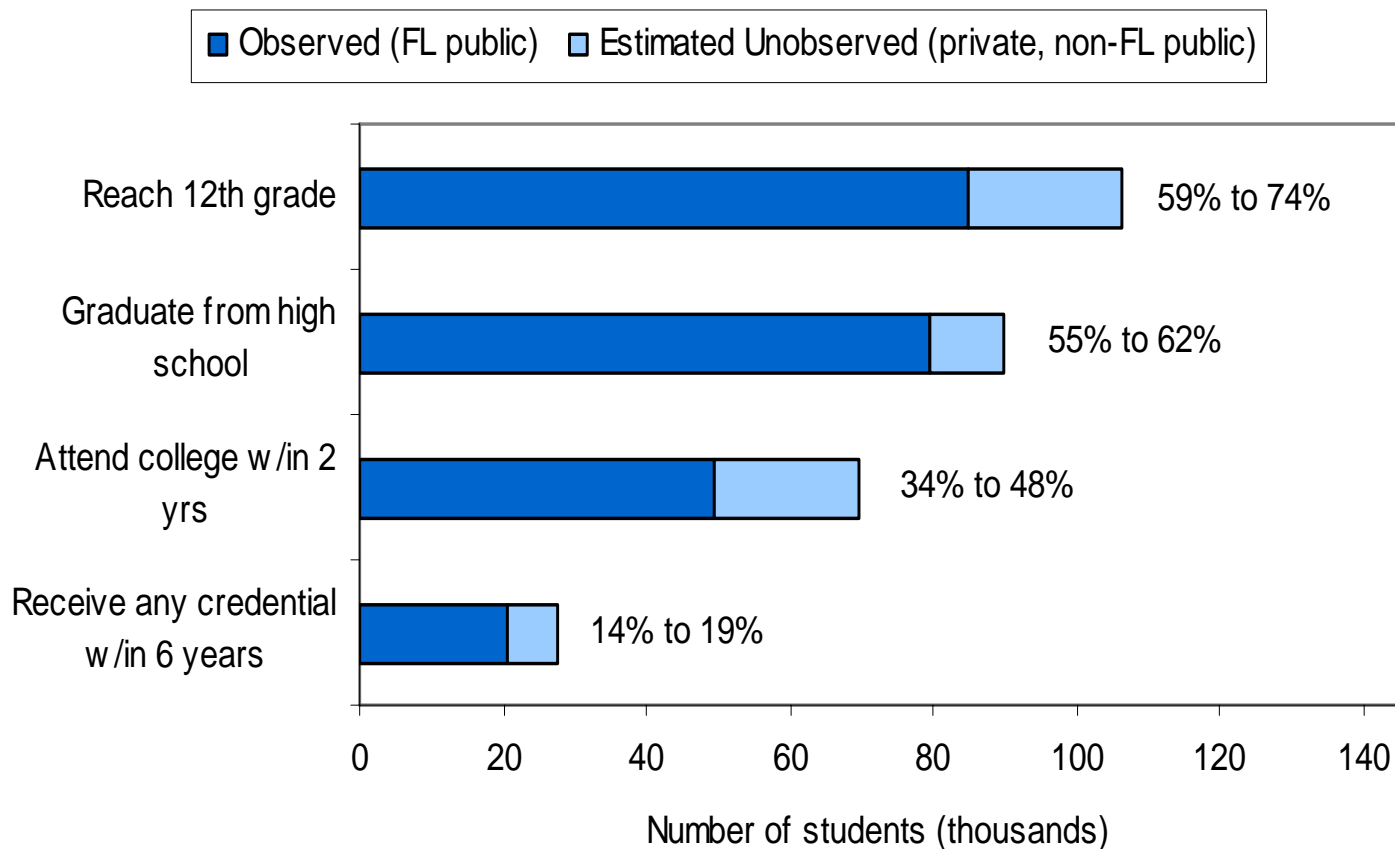
# Timeline for a typical BA student

- Transition to high school—starting 9<sup>th</sup> grade in AY96 (fall 1996)
- Transition to college—fall 2000
- Transition to workforce—spring 2004



# The Education Pipeline

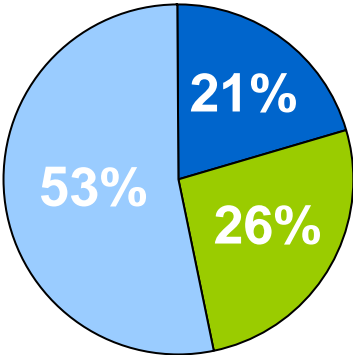
Less than 20% of 9<sup>th</sup> graders receive a postsecondary credential



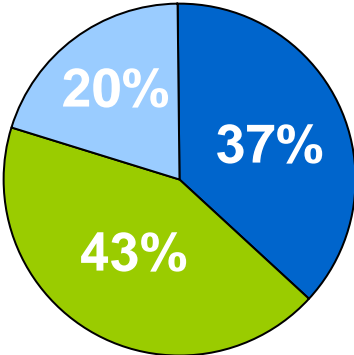
# HS Performance Matters for Going to College

12th graders' college outcomes, by HS GPA

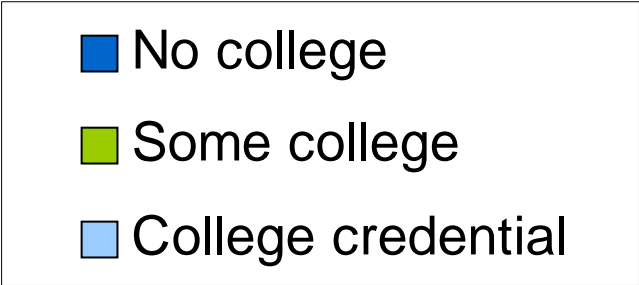
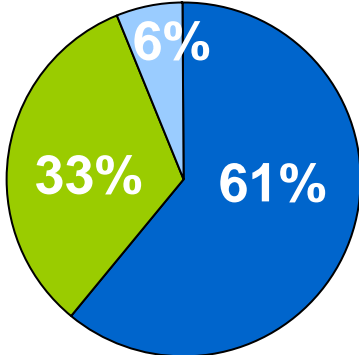
**A Student**



**B Student**

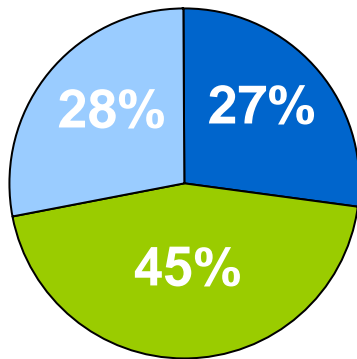


**C or below Student**

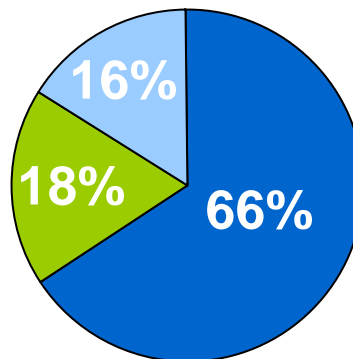


# Type of College Attended Differs by HS Performance

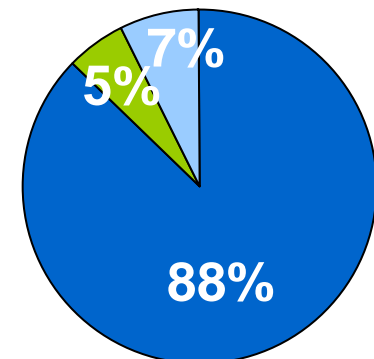
**A Student**



**B Student**



**C or below Student**

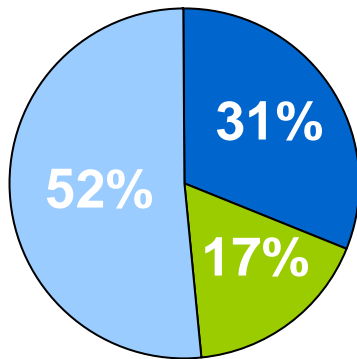


- Attended 2-yr college directly
- Transfer 2-yr to 4-yr
- Attended 4-yr college directly

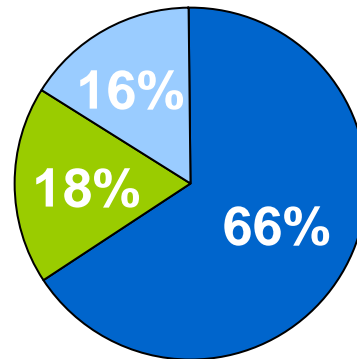
# HS Performance Matters for Attaining a Credential

Credential attainment for students entering college within 2 years of high school

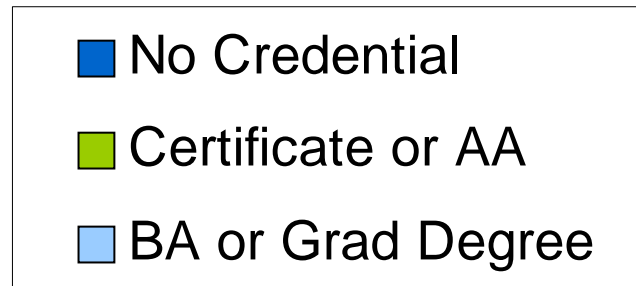
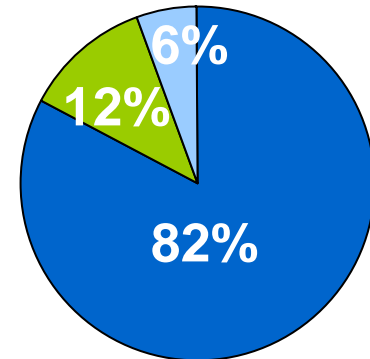
**A Student**



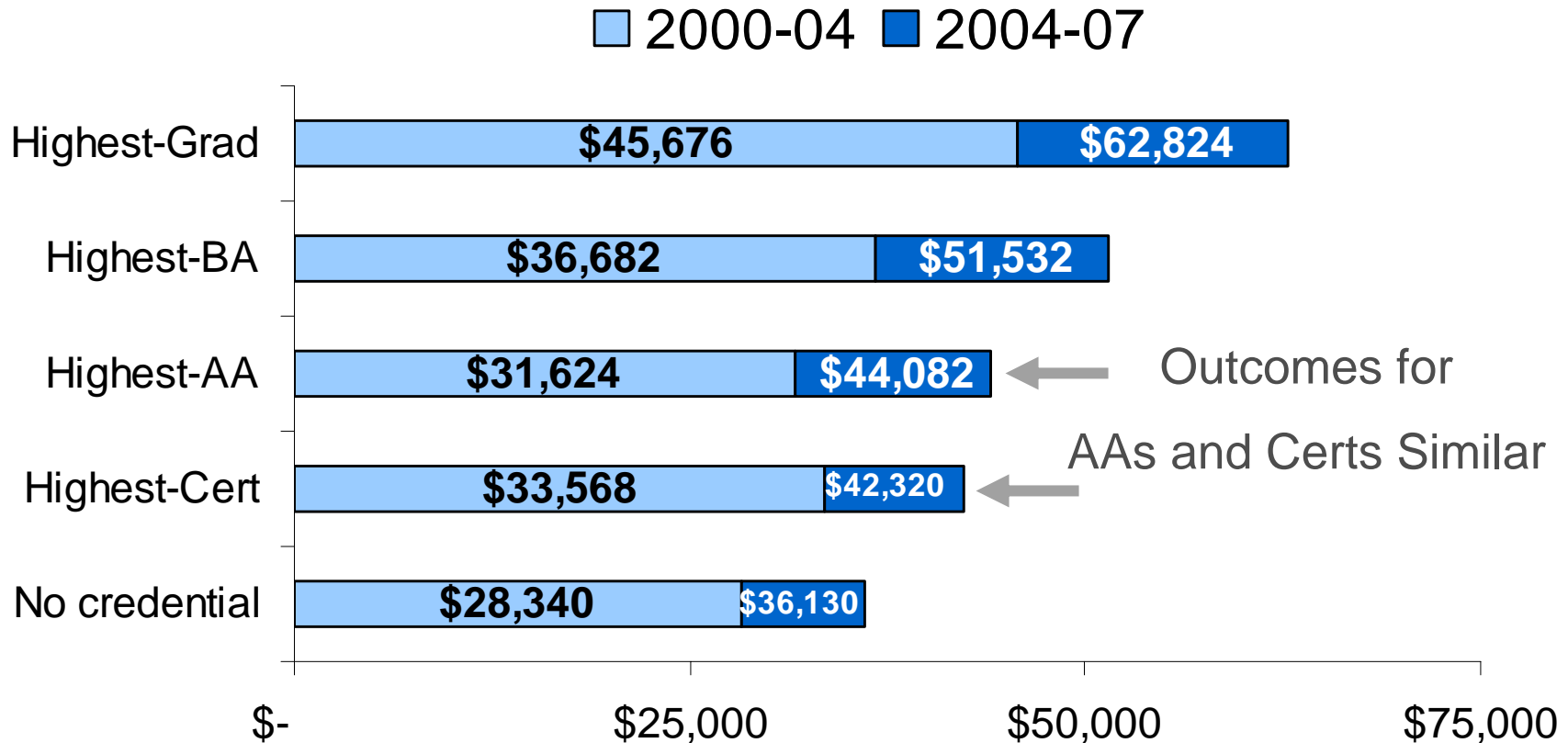
**B Student**



**C or below Student**



# Credentials Boost Earnings



Highest annual earnings for students leaving college and working full time.

# Factors strongly affect post-schooling earnings

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- Prior work experience – raises earnings
  - Certificate students have more work experience than degree students in college the same amount of time.
- Having a high GPA in high school– raises earnings independent of field and # of college courses completed
  - Students with high GPAs would have higher earnings even without additional schooling
- The number of college course completed– raises earnings by
  - \$500 per course for certificate students,
  - \$0 per course for AAs, and
  - \$200 per course for BA and grad students.

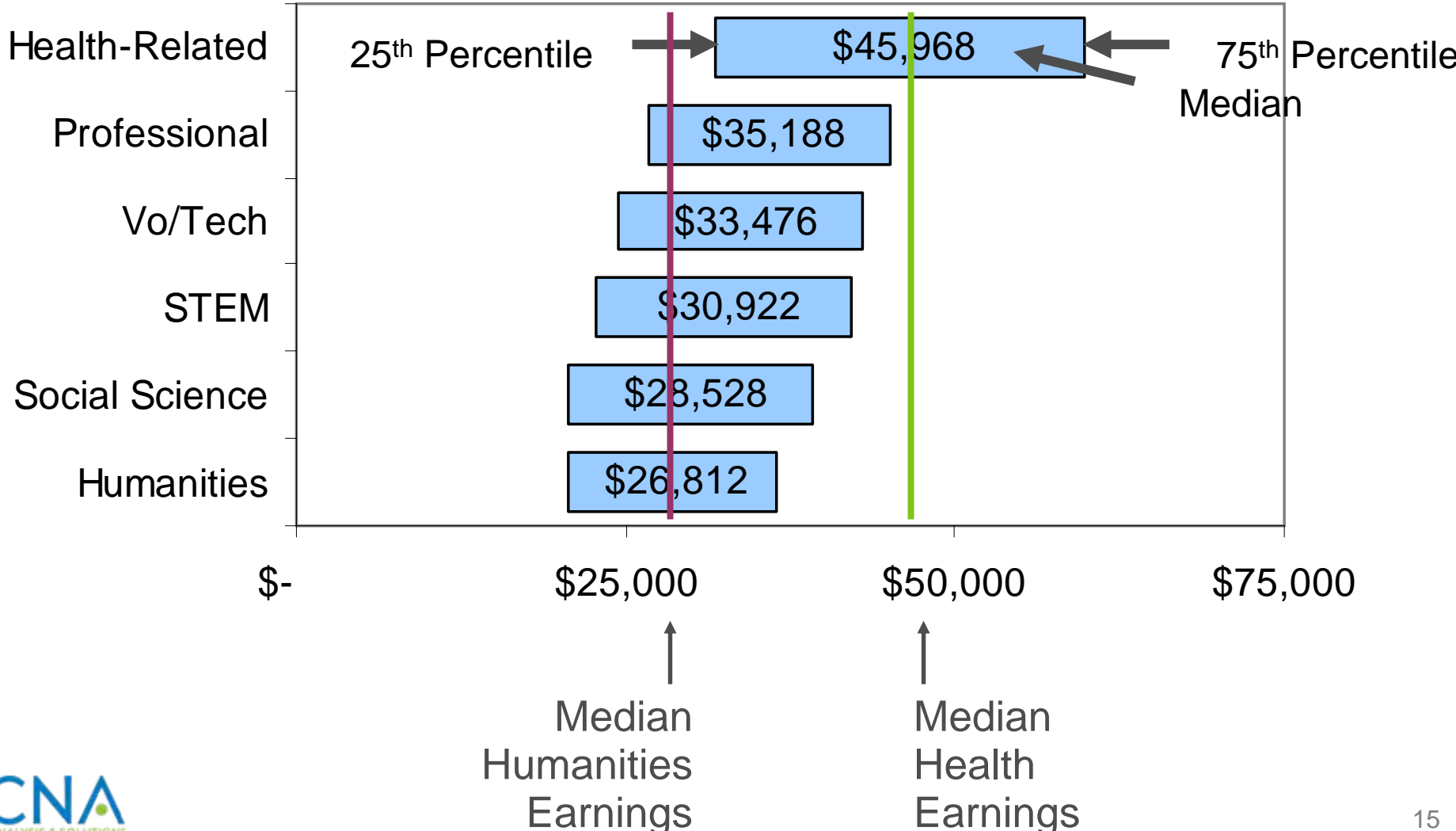
# Fields of Study

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- Health Related
- Professional
  - Accounting, Communications, Financial Services, Law, Management, and Marketing
- Vo/Tech – Vocational/Technical
  - Building trades – Carpentry, Electrical, Masonry, etc.
  - Cosmetology/Barbering, Machinery/Automotive repair, Paralegal,
- STEM – Science, Technology, Engineering, and Math
- Social Sciences
- Humanities

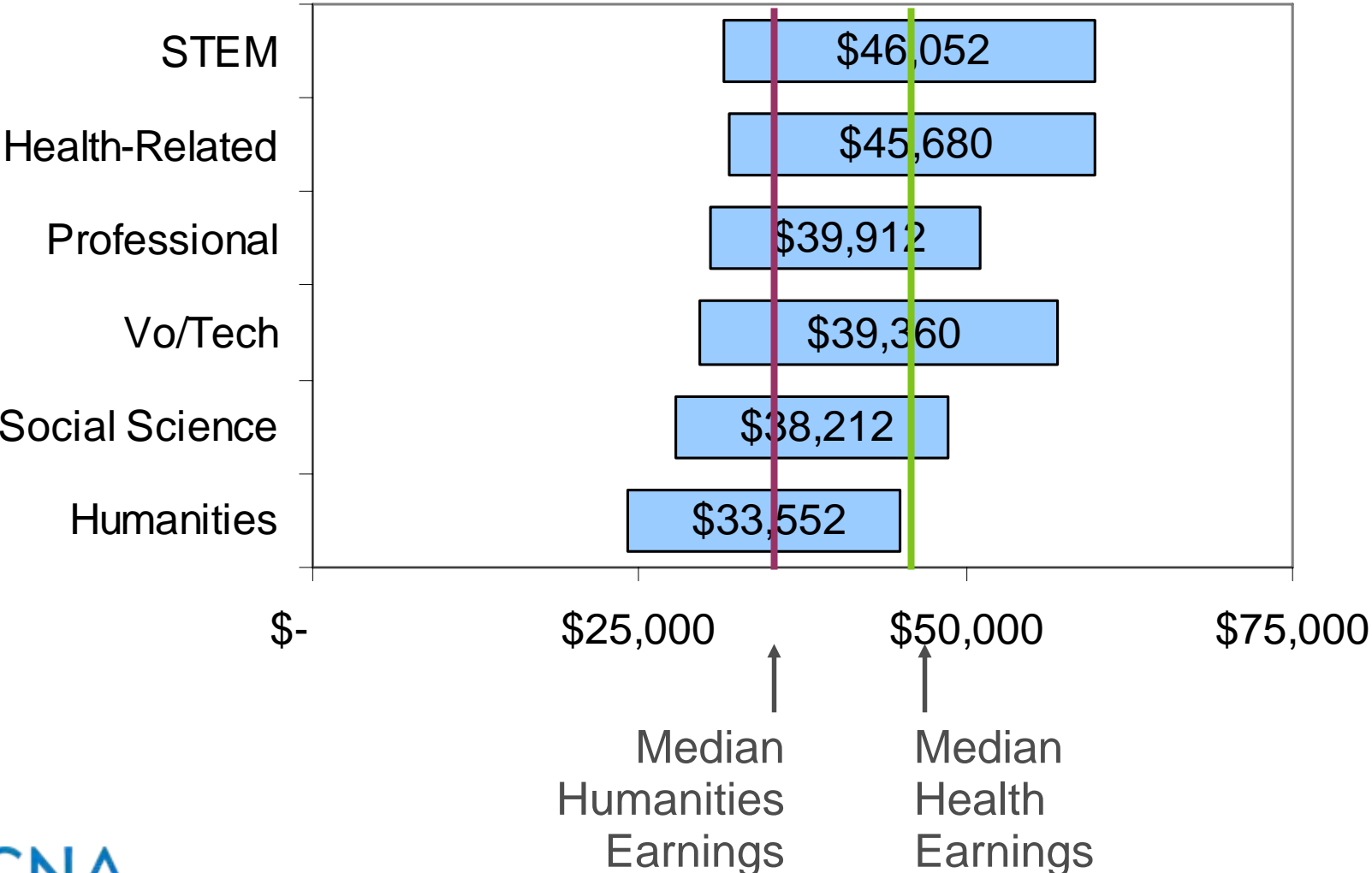
# Certificate and AA field of study strongly affects earnings

## Post-College Earnings Certificates & AAs



# BA field of study modestly affects earnings

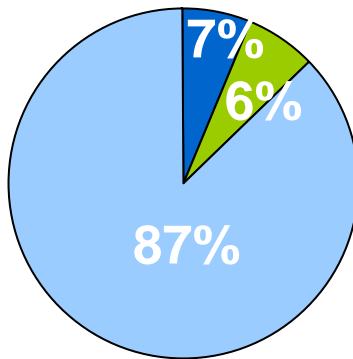
Post-College Earnings for BAs



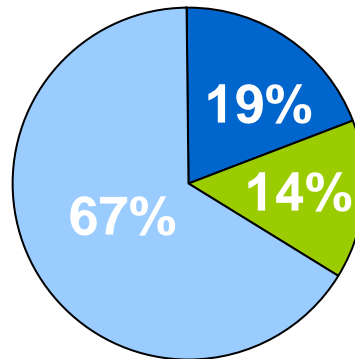
# HS Performance Matters for Persistence

Credit hours earned, by HS GPA

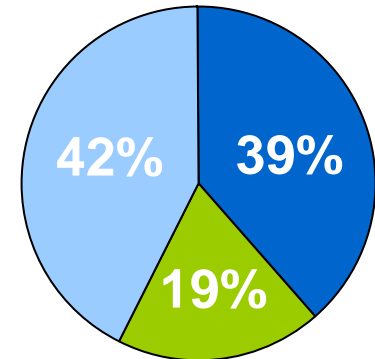
**A Student**



**B Student**



**C or below Student**

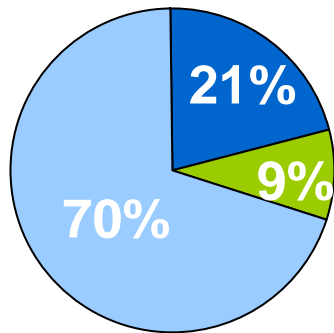


- Less than 12 hours
- 12 to 24 hours
- 24+ hours

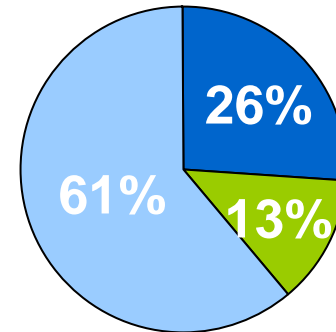
# Remedial course takers are Less Persistent

Number of credit hours completed, by remedial status

**Students with no remedial courses**



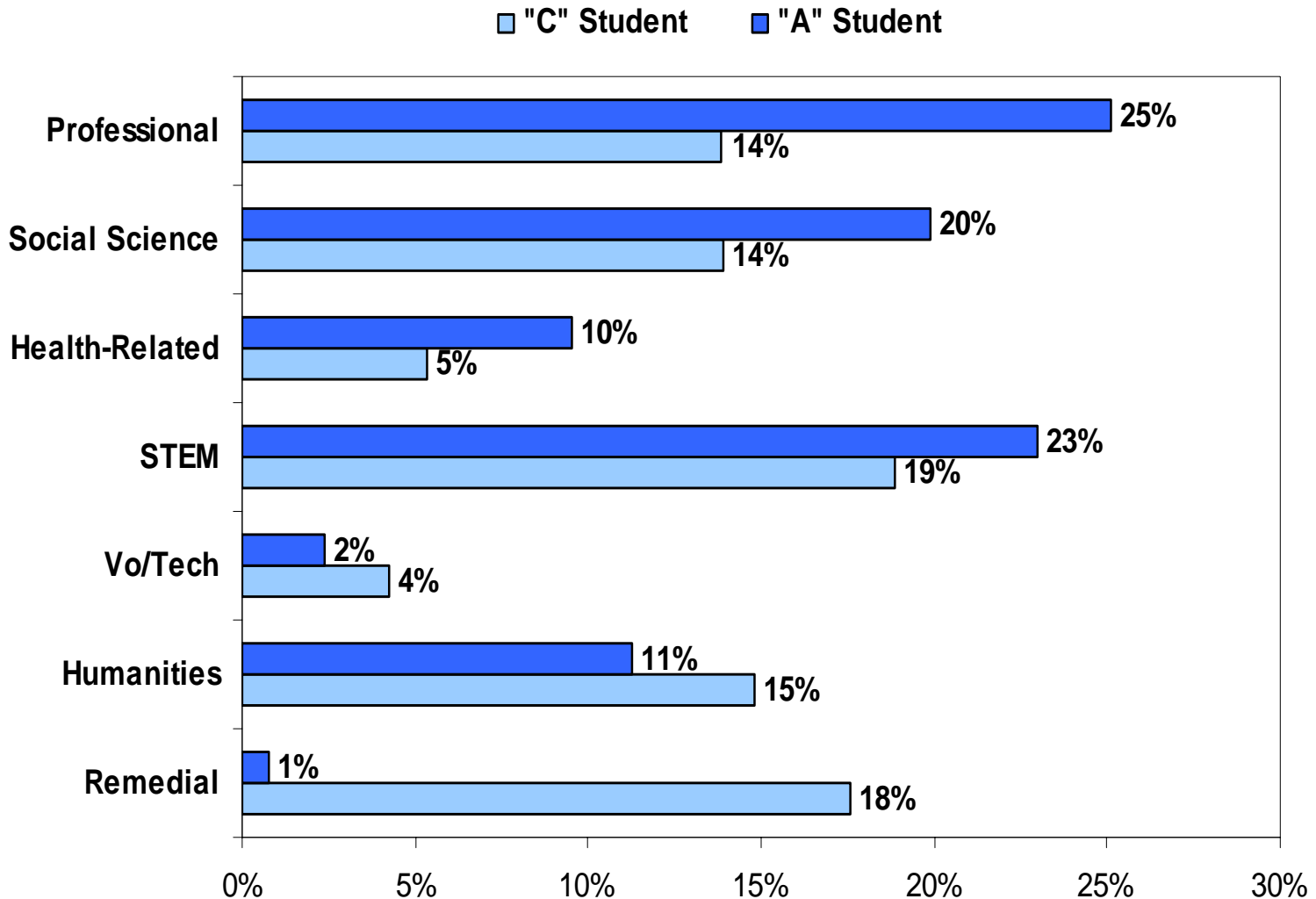
**Students with 1 or more remedial courses**



- Less than 12 credits
- 12 to 24 credits
- 24+ credits

“C” students take many remedial courses & select low return fields.  
“A” students are much more likely to select high return fields.

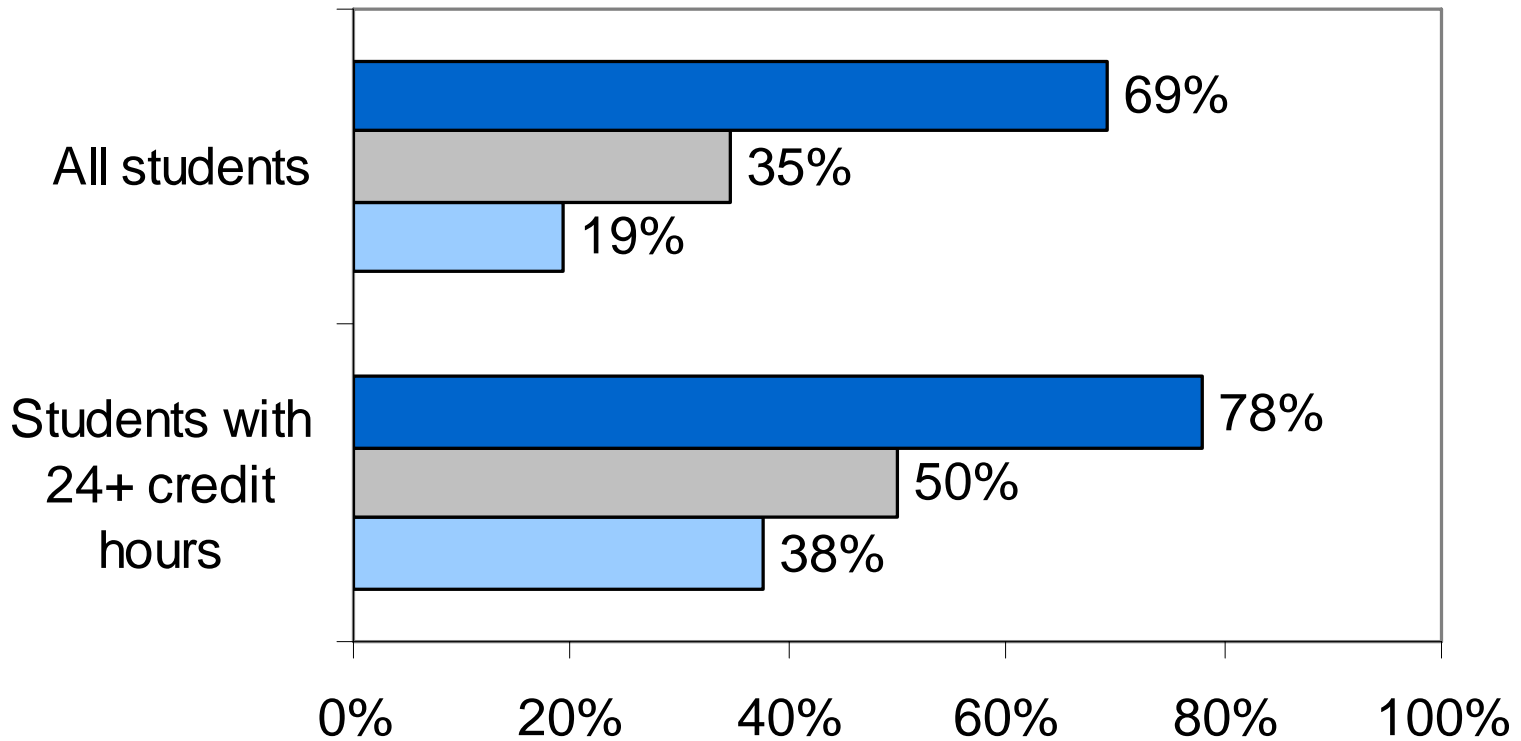
Distribution of field of study among “A” and “C” students with 24+ credits



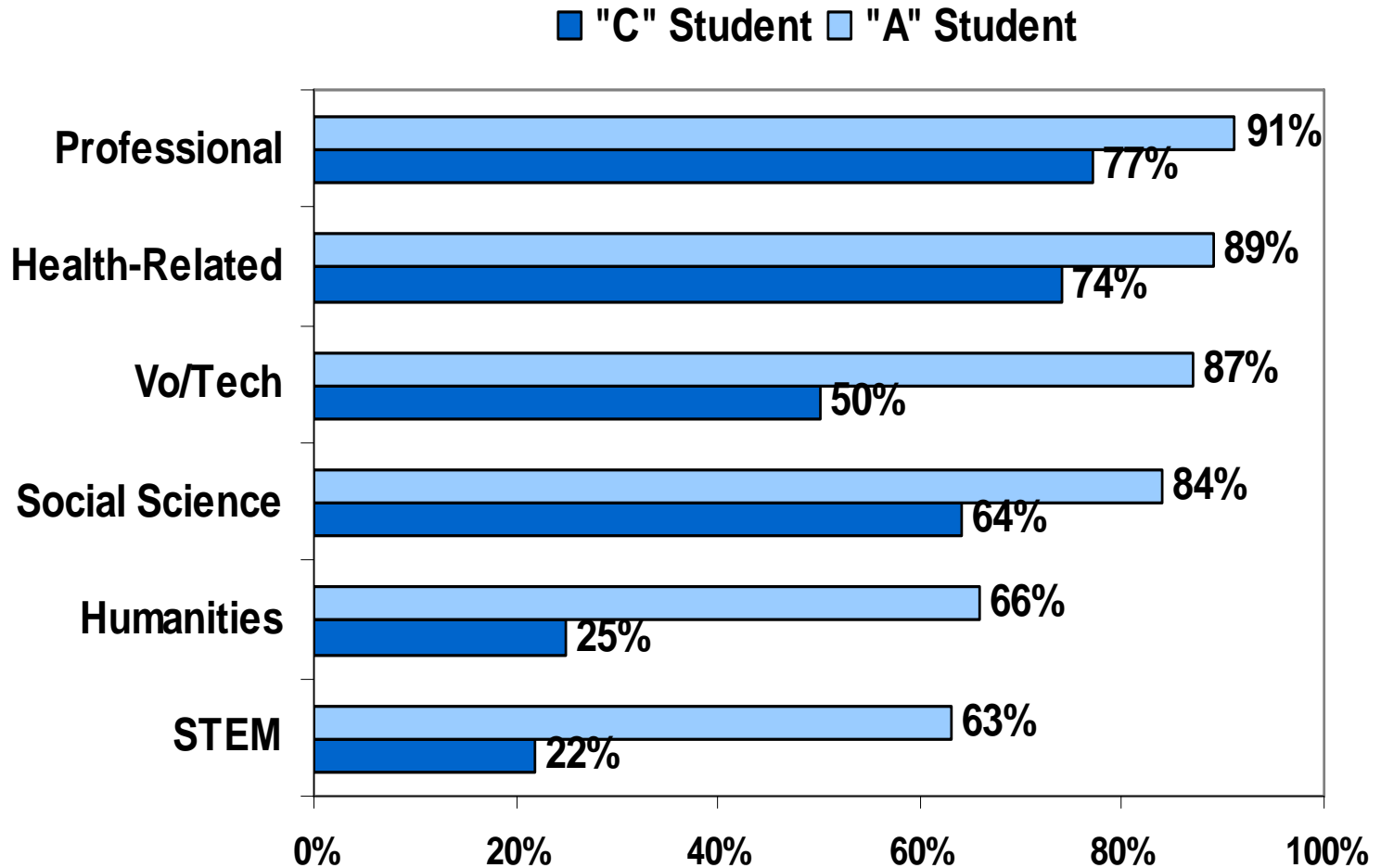
# HS Performance Matters for Receiving a Credential

Percent of students receiving a credential

■ "C" Student ■ "B" Student ■ "A" Student



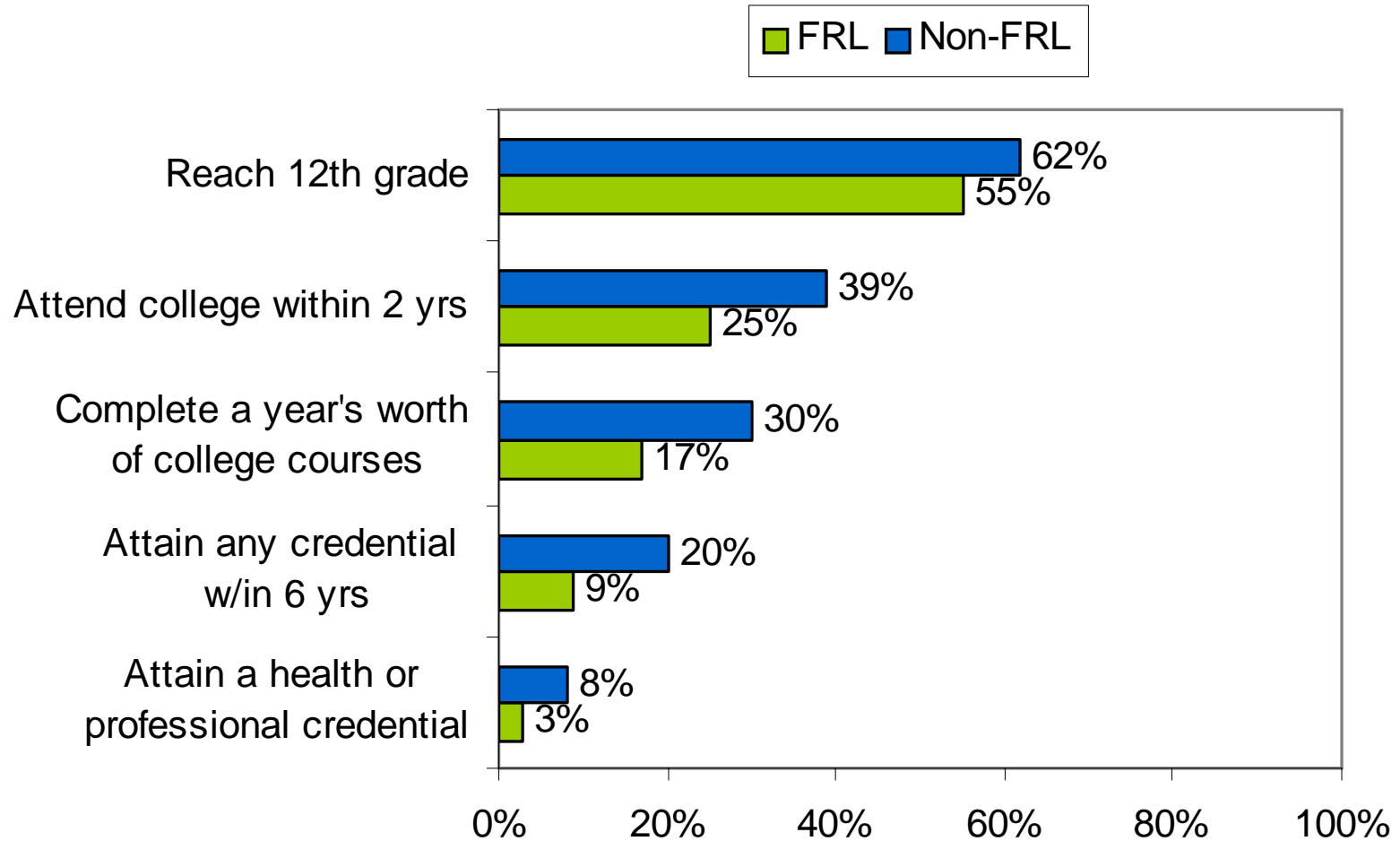
# Field of Study Affects Credential Attainment – Especially for “C” Students



Likelihood of completing a credential by field for students with 24+ credits

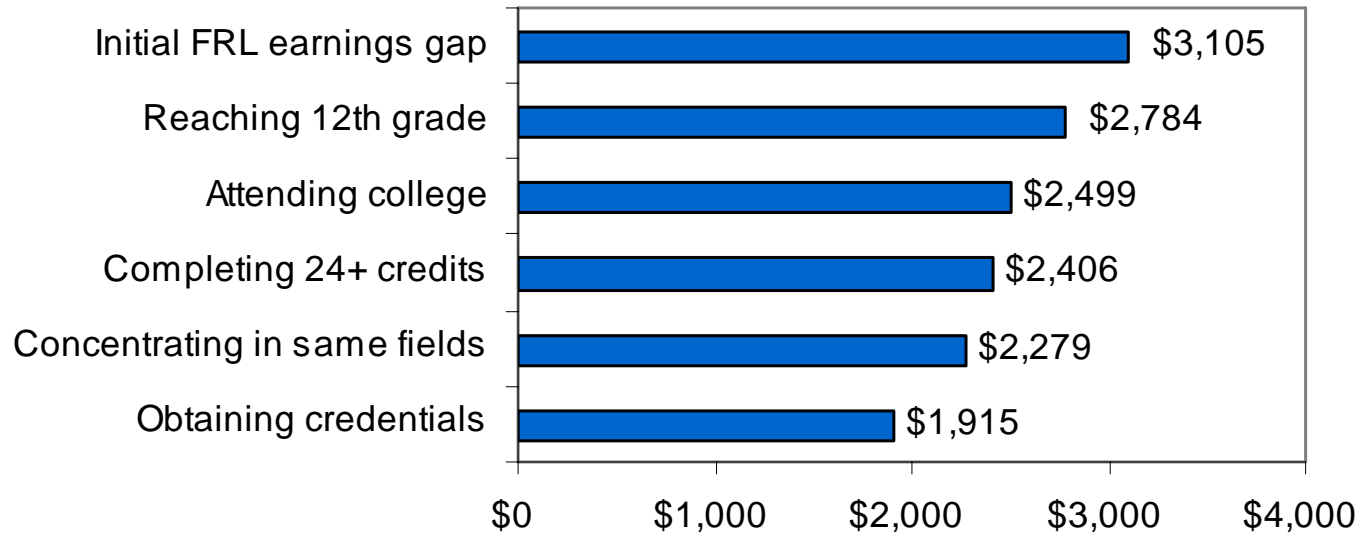
# FRL Students Lag Behind Others at Each Stage

FRL = free and reduced price lunch (measure of low income)



# Sequentially equalizing educational milestones reduces the FRL earnings gap

## Non-FRL - FRL Earnings After 7 Years



37% of the FRL earnings gap is associated with differences in educational milestones

# Ways to Boost Earnings

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- Avoid being in a low-income family.  
(Not an action item unless reincarnation is possible.)
- Perform well in high school.
- Progress as far as possible in college.
- Select high-return college courses.

# Low-Income Background Reduces Attainment/Earnings

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- Non-FRLs are 1.6 times more likely to attend college.
  - 39% of non-FRLs attend versus 25% of FRLs.
- Non-FRLs are 2.2 times more likely to receive a credential.
  - 20% of non-FRLs receive a credential versus 9% of FRLs.
- Non-FRLs are 1.4 times more likely to receive a credential given they attend college.
  - 51% of non-FRLs attending receive a credential versus 36% of FRLs.

# HS Performance Influences Student Outcomes

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|           | Attend<br>College | Remain<br>1 year | Receive<br>a credential |
|-----------|-------------------|------------------|-------------------------|
| HS GPA    |                   |                  |                         |
| A         | 79%               | 70%              | 49%                     |
| B         | 63%               | 43%              | 15%                     |
| C or less | 39%               | 19%              | 4%                      |

# Higher Credentials are Associated with Higher Earnings

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Difference in annual full-time earnings  
relative to next highest credential

| Highest Credential            | \$ Increase     | % Increase |
|-------------------------------|-----------------|------------|
| <b>Cert</b> (vs some college) | <b>\$6,190</b>  | <b>17%</b> |
| <b>AA</b>                     | <b>\$1,762</b>  | <b>4%</b>  |
| <b>BA</b>                     | <b>\$7,450</b>  | <b>17%</b> |
| <b>Grad</b>                   | <b>\$11,292</b> | <b>22%</b> |

# Field of Study Affects Earnings

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Percent increase next highest field

| <b>Earnings after three years, Humanities</b> | <b>AA-Cert<br/>\$26,816</b> | <b>BA<br/>\$33,540</b> |
|---|-----------------------------|------------------------|
| <b>Social Science</b>                         | <b>6.4%</b>                 | <b>13.6%</b>           |
| <b>STEM 2-yr</b>                              | <b>8.4%</b>                 |                        |
| <b>Vo/Tech</b>                                | <b>8.3%</b>                 | <b>3.3%</b>            |
| <b>Professional</b>                           | <b>5.1%</b>                 | <b>1.3%</b>            |
| <b>Health-Related</b>                         | <b>30.6%</b>                | <b>14.0%</b>           |
| <b>STEM 4-yr</b>                              |                             | <b>1.7%</b>            |

# Policy Implications-1: **Identify Goals**

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- **Improve high school performance** (outside scope of this project)
- For low performing students – **increase AAs and certificates in high return fields**
- For high performing students **increase BAs and Grad degrees in any field**

## Policy Implications-2: Remove Impediments

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- Improve planning through increasing knowledge of:
  - Existing financial aid.
  - Effect on earnings of obtaining credentials in different fields.
  - Probability of completing courses in different fields of study.
  - Best match for each student based on performance, experience and interests.
- Improve execution of plans through:
  - Providing supportive services.

# What's Next?

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## Assess Impediments and means to overcome them.

### 1. Survey students entering community college to determine:

- Reason for attending college.
- Expectations with respect to persistence, credentials, and earnings.
- Rigor of planning process.
- Knowledge of sources of financial aid and support.
- Sources of assistance and support used.
- Gaps in support.

# What's Next?

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- 2. Provide realistic assessment of outcomes to students:**
  - Compare expectations to projections based on our analysis.
  - Describe options more likely to meet goals.
  - Provide referrals to get additional help.
- 3. Assess impact of new information on course selection.**
- 4. Determine impediments encountered during first semester.**
- 5. Assess impact of new information on persistence and earnings.**

# Additional Steps

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- Conduct similar studies to determine goals, expectations, knowledge, and sources of information to determine:
  - Why low-income high school seniors do not attend college.
  - Why low-income students performing well at 2-year colleges do not complete AAs and transfer to 4-year colleges.
- Determine effect of providing assessments, counseling, and referrals to supportive services.

# Additional issues worth addressing

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- How work experience affects course selection and earnings.
- The extent to which completion of CTE courses requires special aptitudes.
- The extent to which vocational aptitude tests would help students make better choices.
- Why do education and workforce outcomes vary among similar students attending different institutions.