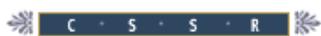

Foster Youth Transitions

A study of California foster youth
high school and college educational outcomes



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“Education is the foundation for success for foster youth, and without it, there is NO hope...”^{1a}
-Roberta, former foster youth

Headline findings:

- ▶ High school completion—which is key for postsecondary success—is a challenge for foster youth.
- ▶ High school academic measures predict high school completion and positive college outcomes.
- ▶ Where foster youth attend high school matters—higher quality schools better prepare foster youth for high school and postsecondary success than lower quality schools.
- ▶ Foster youth in-care during high school who age-out have stronger outcomes than those who reunify with family.
- ▶ Foster youth who are referred to child services after leaving placement struggle to complete high school, enroll and persist in college.
- ▶ Although they enter college at the same rate as similar students, staying in college remains a challenge for foster youth.
- ▶ Foster youth who take credit classes while in high school or enroll in postsecondary schools right after high school are more likely to stay in college compared to other foster youth.

Introduction

For most adolescents, high school is a demanding yet exciting time that sets the foundation for adult life. Parents and other adult role models nurture and support youths’ educational goals including high school graduation and entrance into college. Unfortunately, many foster youth face a different reality. Trauma associated with abuse and neglect, placement in foster care, or a revolving door of foster homes diminishes academic, social, and familial networks—supports that are critical to help youth reach important educational milestones, and in turn, long-term individual, social, and financial well-being.²

Past research indicates that foster youth struggle in school. Compared to their peers, foster students are more likely to have lower achievement test scores and perform below grade level.³ They also are twice as likely as non-foster youth to drop out of high school.⁴ Of the foster youth who attend college, a much lower proportion earns a postsecondary degree compared to the general population.⁵

To better understand the educational experiences of foster youth, the Center for Social Services Research at UC Berkeley and the Institute for Evidence-Based Change conducted a study of high school and college outcomes among California foster youth. This study builds upon past research, including the *First Look* pilot of this project.⁶

How Will This Study Inform the Field?

Although past investigations provide an understanding about how foster youth fare in secondary and postsecondary settings, these efforts have largely focused on the small percentage of foster youth who emancipate or “age-out” of the child welfare system.⁷ To fill existing gaps in knowledge, this study examines high school and college outcomes for California foster youth and differentiates between various groups of foster youth (e.g., foster youth in-care versus those who exited care prior to high school).

^a All foster youth quotes in this report are from the same source. Please see endnote 1.

Examining achievement among different groups of foster youth provides a deeper understanding of their high school and college education outcomes. This actionable knowledge allows for more efficient implementation of existing policy (e.g., AB490, AB12^b) and identifies new intervention points for services. By focusing on foster youth, the most vulnerable of disadvantaged students, findings may provide insight as to how to address education achievement gaps for other special populations.



Providing Context with Key Comparisons

In addition to foster youth, the study includes outcomes for closely matched students who have not experienced foster care. Most foster youth share characteristics with other “disadvantaged” at-risk students. Both groups of students are, on average, poor,⁸ nonwhite,⁹ or disabled (i.e., are eligible for special education services).¹⁰ Research indicates that fewer at-risk youth complete high school or attend college compared to others in the general student population.¹¹ For foster youth, at-risk characteristics coupled with trauma associated with maltreatment and foster care placement, may place them at greater risk for education failure than their disadvantaged peers.

Challenges to educational achievement, particularly high school and college completion, are not just limited to foster youth or disadvantaged youth—they are mainstream challenges in American education.¹² Education reform continuously focuses on how to improve student outcomes for all students and to decrease the achievement gap between advantaged and disadvantaged youth.¹³ This study presents limited general population information to provide a context for foster youth and matched comparison student achievement findings in order to better understand the continuum of education challenges.

This report presents key findings of the California statewide child welfare and education data link study. In the next section, a brief summary of the study methods provides detail about what data are used in the analysis design. Then, the high school and college findings for foster youth, matched comparison students, and general population students are presented in addition to characteristics related to education outcomes. In the last section of this report, potential points of intervention are presented with an emphasis on policy and practice implications.

^b California Assembly Bill 490 (Steinberg), the Ensuring Educational Rights and Stability for Foster Youth Act, became effective in 2004. This policy strengthens educational rights and ensures school stability for foster youth. California Assembly Bill 12 (Beall), the California Fostering Connections to Success Act, effective in 2012, extends benefits to foster youth until age 21.

Data and Methods

This study links two primary data sources: administrative child welfare records from the California Child Welfare Services Cases Management System (CWS/CMS), coordinated by the Center for Social Services Research at UC Berkeley, and education records from the California Partnership for Student Success (Cal-PASS), managed by the Institute for Evidence-Based Change. Additional data from the California Department of Education (CDE) provides information about school quality.

Findings focus on cohorts of foster youth in grades 9 to 11 during school years 2003–04 to 2006–07, who have Standardized Testing and Reporting (STAR) data.¹⁴ As high school to college outcomes may differ by academic focus, the study uses two separate samples, an ELA (English language arts) and a math sample, to investigate differences between these subjects.^c

Within the primary ELA and math samples, three foster youth populations are defined and selected:

1. Youth who exit a foster care placement prior to high school and do not re-enter placement during high school (exited youth).
2. Youth in a foster care placement while in high school (youth in-care).
3. Youth in a foster care placement while in high school and in the specified grade (e.g., foster youth is in the 9th grade cohort and in a foster care placement during 9th grade). This sample is matched closely to non-foster youth students.^d

Analyses include sample means and proportions for all education, demographic, and child welfare case characteristics. Differences in the means and proportions are calculated among groups. In addition, a logistic regression model with relative risk outcomes examines differences in education outcomes among groups controlling for various characteristics beyond foster youth status.

A weighting formula ensures that the samples of foster youth with available educational data represent the statewide foster youth population and the closely matched non-foster youth groups represent the general student population in the regression models. All foster youth and closely matched samples are weighted by gender, ethnicity, and urban/rural county locale.

In order to provide context to the foster youth outcomes, statistics for general population students are presented. The general population rates are calculated using a stratified sample approach from a pool of students extracted from participating Cal-PASS institutions.

Please see the Technical Appendix for detailed information regarding data and methods.

^c A student must have a CST (California Standardized Test) score and at least one year of course data in ELA or math to be included in the samples. For example, to be included in the math 9th grade cohort, a youth must have a CST math score in 9th grade in addition to math course information in high school.

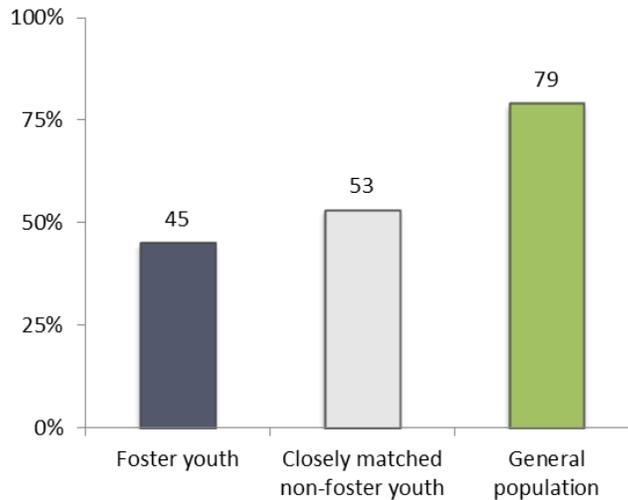
^d The in-care foster youth sample is matched to comparison students by: grade level, school year, gender, ethnicity, English language learner status, free or reduced price lunch status, primary disability, district or school, state rank, and cohort grade CST level.

Findings

High School Completion

Significantly fewer foster youth complete high school compared to the matched non-foster youth and general population students (Figure 1). Only 45% of foster youth complete high school compared to 53% of the closely matched and 79% of general population students.^e

Figure 1: Proportion of foster youth, matched non-foster youth, and general population students who complete high school (English sample)



Postsecondary Outcomes

Figure 2 depicts college outcomes for foster youth, matched non-foster youth, and general population students by high school completion status.^f

High School Completers

For youth who complete high school, community college entrance and persistence rates are similar for foster youth and matched non-foster youth. Compared to general population students, fewer foster youth enter (60% versus 65%) and a significantly lower percent persist (enroll from one year to the next) in community college (30% versus 41%). Similar trends are found at the university level. While comparable rates of foster youth and comparison students enter and persist in 4-year institutions, a significantly lower proportion of foster youth achieve these goals in relation to the general population. Of all the students who complete high school, only 9% of foster youth enroll and 5% persist at the university level compared to 15% who enroll and 11% who persist in the general population. Overall, 31% of foster youth who complete high school do not enter any type of postsecondary institution compared to 20% of general population students.

High School Non-completers

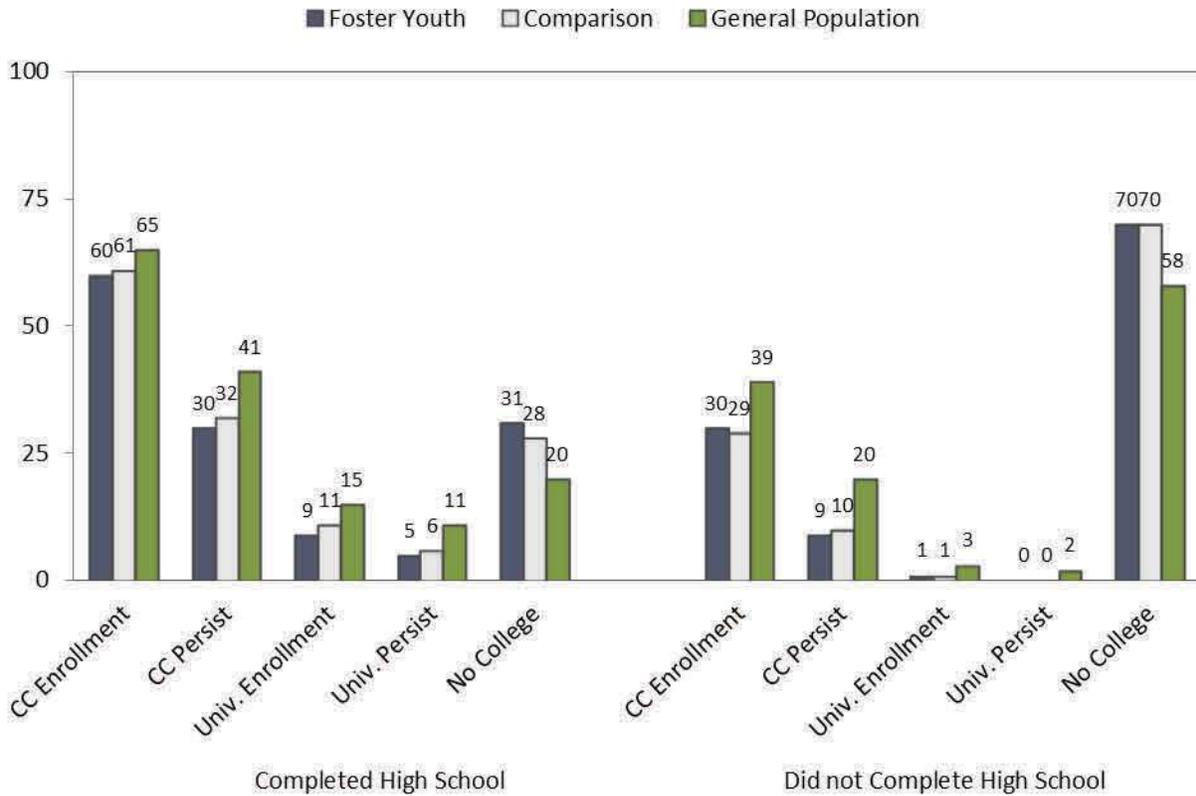
For foster youth who did not complete high school, similar patterns emerge at the community college level as among high school completers. While proportions of foster youth and comparison students are close to the same, significantly fewer foster youth enroll and persist compared to general population students.

^e These findings are from the English sample. However the math sample had similar outcomes with 46% of foster youth and 54% of matched students completing high school.

^f Outcomes for math are similar. Please see the Technical Appendix for detailed information.

Of the youth who do not complete high school, approximately 30% of foster youth enroll and 9% persist in community college compared to 39% and 20% of students in the general population. Equivalent low proportions of foster youth, comparison, and general population students who do not complete high school enter (1–3%) and persist (0–2%) in 4-year institutions. Although 70% of foster youth and matched non-foster youth do not attend any type of postsecondary institution among non-high school completers, the proportion is significantly higher than the 58% found in the general population sample.

Figure 2: Proportion of foster youth, matched non-foster youth, and general population student college outcomes by high school completion status (English sample)



The differences in postsecondary attainment by high school completion status are considerable for all groups. Significantly lower proportions of youth who do not complete high school enroll, persist, or transfer from a 2- to 4-year institution compared to youth who do complete high school. While these findings signal challenges for all groups, due to significantly lower rates of high school completion, the results are particularly troublesome for foster youth.

To understand how foster youth fare in relation to closely matched non-foster youth, the analysis also controls for various at-risk characteristics (e.g., race, special education status, school quality). For a number of outcomes, foster youth status is negatively related to education progress, above and beyond all other risk characteristics.

Foster youth are significantly less likely to complete high school or persist in college compared to closely matched non-foster youth.

Results indicate that foster youth are 17% less likely to complete high school compared to closely matched students.^g While no significant differences are found in community college or overall postsecondary enrollment, there are disparities in persistence. Foster youth are 8% less likely to persist in community college and 12% less likely to persist at the postsecondary level (college or university) in relation to their closely matched peers.

Education and Child Welfare Characteristics

Foster youth who complete high school are significantly more likely to enter and persist in a postsecondary institution compared to those who do not complete high school. Unfortunately, the findings also indicate that high school completion is a challenge for foster youth. This study uses multivariate analyses to determine which characteristics are associated with foster youth high school completion, and enrollment and persistence in college. The following section highlights education and child welfare factors associated with education outcomes for foster youth.^h



High School Factors

Academic measures

The study assesses two measures of academic performance in high school: California Standards Test (CST) proficiency and success in A–G coursework in both English and math. Students take a specific CST test only after they have completed a course that covers the corresponding course materials and standards.¹⁵ In English, students generally take the test matched to their grade level. CST math tests are course-based, not grade-based, and include subjects such as Algebra 1 and geometry. A–G requirements are prerequisite classes for California State University (CSU) and University of California (UC) admission.ⁱ

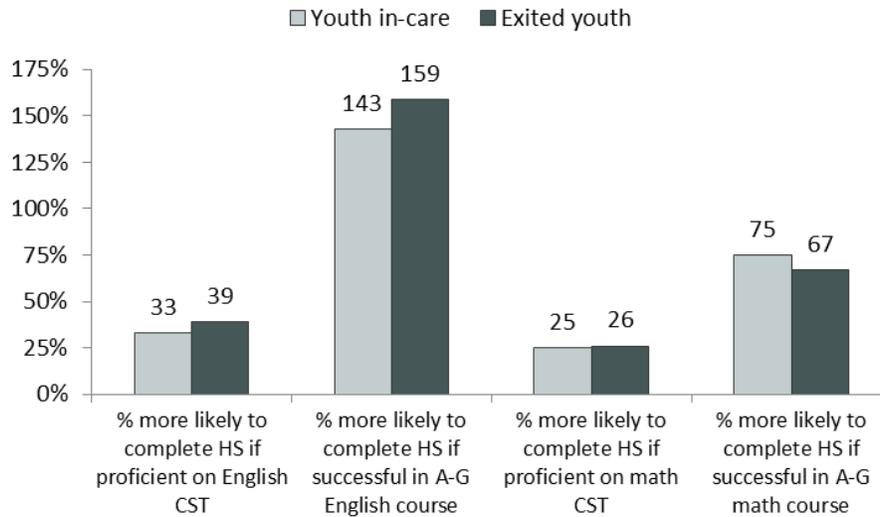
Across all samples, academic performance in high school, measured by CST scores and successful course completion, is strongly associated with high school completion (Figure 3). Foster youth who are successful in A–G courses and CST proficient are significantly more likely to complete high school. For foster youth in-care during high school, students who are successful in A–G English classes are 143% more likely and those successful in math courses are 75% more likely to complete high school compared to youth who are not successful. Similar results are seen for youth who exit foster care prior to high school (159% more likely in English and 67% more likely in math A–G classes). For both groups of foster youth, those who are proficient or above on the CST are over 30% more likely in English and approximately 25% more likely in math to complete high school. These findings align with past research that indicates students in the general population who perform poorly on the CST are far more likely to drop out of high school than those who perform well.¹⁶

^g Results are for the English sample. Outcomes for math are similar with the exception of postsecondary persistence. Please see Technical Appendix for more information.

^h Unless defined in the text or figures, the findings are from the English sample. Although there are some differences between the English and math findings, the characteristics presented are significant in both analyses.

ⁱ Please see the Technical Appendix for more information.

Figure 3: Relative risk estimates for high school (HS) completion based on CST and course performance among foster youth in-care and those who exit prior to high school



School quality

Compared to the general population, significantly lower proportions of foster youth attend higher quality high schools (50% versus 66%), as measured by the state’s Academic Performance Index.^j Those who attend higher quality schools are more likely to complete high school, enroll, and persist in college.

School quality is a challenge in California—approximately 20% of high schools are state monitored for failure to reach their academic growth target.¹⁷ Lower quality high schools are often characterized by a lack of resources, including rigorous curricula.¹⁸ Other challenges include teacher quality; poor quality schools often have fewer fully credentialed teachers and more teachers who teach out of their credentialed field.¹⁹ Consequently, the most academically vulnerable foster youth are often in the poorest quality schools taught by the least experienced teachers.

Over half of California foster youth attend poor quality high schools compared to one-third of the general student population.

Foster youth who attend poor quality schools are less likely to complete high school, enroll and persist in college than other foster youth.

Disabilities

Akin to previous studies, this study found that a significantly large proportion of foster youth qualify for special education services due to a documented disability (22% of foster youth versus 10% of general population students).²⁰ While high school completion findings are inconsistent, foster youth with a disability are significantly less likely to enroll in postsecondary education (12–15% less likely). Though once enrolled, non-disability and disability foster youth students persist at the same rate.

Similarly, Wagner et al. (2005) found that only 1 in 5 youth with a disability attend college, less than half the rate of general population students.²¹ The previous work also finds that youth who go on to college are more likely to have graduated from high school and have higher cognitive functioning than those who do not attend.²² It may be that only the highest functioning foster youth with disabilities enroll in college, mitigating potential differences in persistence, and lending insight as to the differences in enrollment and persistence outcomes.

^j see Technical Appendix for more information on the school rating scale based on the Academic Performance Index.

Child Welfare Factors

Group homes

Experiences while in foster care can make a difference in education outcomes. Foster youth who spent the majority of their time in group homes are more than 18% less likely to complete high school compared to those in kin homes. Findings are consistent whether youth exited care prior to high school or were in-care during high school.

Compared to those in kin homes, foster youth in group homes are...

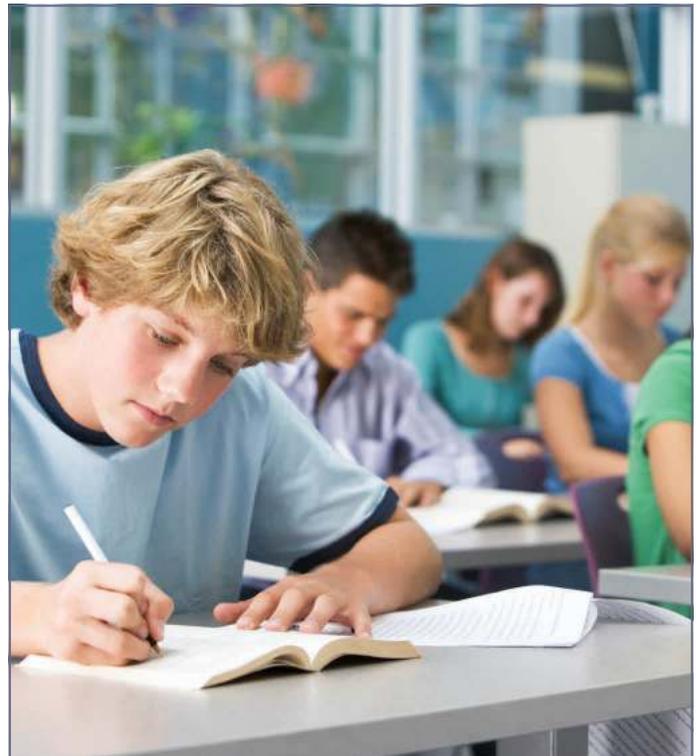
- ▶ **21% less likely** to complete high school if they are in-care during high school
- ▶ **19% less likely** to complete high school if they exited prior to high school

Group homes are the most restrictive type of child welfare placement and often serve youth with emotional and behavioral problems—challenges that may carry over to the school environment. Additionally, the low level of high school completion among foster youth in group homes may be associated with school quality and special education status. Approximately 47% of foster youth in group homes are identified for special education services, although many of these youth attend non-public schools associated with the group home.²³ It was not until 2004 that California passed legislation, SB 1108 (Budget and Fiscal Committee) and AB 1858 (Steinberg), establishing standards and oversight to improve the quality of these schools.²⁴ Future research which differentiates between public and non-public school type will help to clarify education challenges associated with group home placement.

Number of placements

The number of different foster home placements a youth in-care during high school experiences yields differences in education outcomes. Compared to youth with 1 to 2 placements, those with 3 to 4 are 13% less likely and those with 5 or more placements are 31% less likely to complete high school. In addition, youth with 5 or more placement are 10% less likely to enter college and 16% less likely to persist.

While this study does not investigate school moves, past research reports that placement moves are often associated with changing schools.²⁵ School moves, especially in high school are associated with significantly lower rates of high school completion.²⁶



Reunification

Youth exit foster care in a variety of ways including reunification with family, adoption, and legal guardianship. For youth in-care during high school, another exit route is to emancipate or age-out of placement. Youth who age-out are 20% more likely to complete high school, 19% more likely to enter community college, and 6% more likely to persist than youth who reunified with family.^k

In the past two decades, research, resources, and policy have improved outcomes for youth who age-out of the child welfare system. Currently, this group is supported in federal and state law by a series of programs designed to provide a solid foundation for living post-foster care.^l Unfortunately, due to the limitations in this study's dataset, intervention effectiveness cannot be pinpointed, but the evidence suggests with some certainty that something is working to increase education success for this group of foster youth.

Foster youth who reunify with family while in high school struggle to complete high school. Although family reunification is a primary goal for youth, follow-up resources for youth who return home could provide the tools and support necessary for educational success.

Compared to those who reunify with family, foster youth in-care during high school who emancipate are...

- ▶ **20% more likely** to complete high school
- ▶ **19% more likely** to enroll in community college
- ▶ **6% more likely** to persist in community college^j

Maltreatment referrals after exit

For foster youth who exit placement prior to high school, child maltreatment referrals post-exit make a difference in education outcomes. Compared to youth who are not the subject of an investigated referral, those with 3 or more referrals are 24% less likely to complete high school, 21% less likely to enter and 11% less likely to persist in community college. These findings are complemented by past studies that have found that school performance of youth referred for maltreatment declines regardless of whether the allegations are substantiated or not.²⁷

^k These relative risk estimates are based on the English sample. The math sample had slightly different rates, with 25% more likely to complete high school and 13% more likely to persist in college. See the Technical Appendix for more information.

^l At the federal level, key policies include the Chafee Foster Care Independence Program (1999) and the Chafee Education Training Vouchers Initiative (2002). In California, Assembly Bill 12 and the California Fostering Connections to Success Act (2010) extend services to foster youth past age eighteen. At the college level, the California Educational codes §89342 and §89343 (1998) mandate that California State Universities and community colleges ensure housing and technical support for emancipated foster youth. Examples of programs that assist emancipated foster youth include Independent Living Program and Guardian Scholars.

Compared to those who exit care and do not receive a referral, foster youth who receive 3 or more referrals after exit are...

- ▶ **24% less likely** to complete high school
- ▶ **21% less likely** to enroll in community college
- ▶ **13% less likely** to persist in community college

College-Level Factors

At the postsecondary level, rates of college enrollment for foster and closely matched students are not considerably different. Rather, persistence is the challenge. Foster youth are significantly less likely to persist in college regardless of high school completion status. Findings point to several factors associated with persistence: enrolling in 15 credits or more, entering college right after 12th grade, receiving financial aid, and enrolling in basic skills courses (Figure 4).

Credit enrollment level

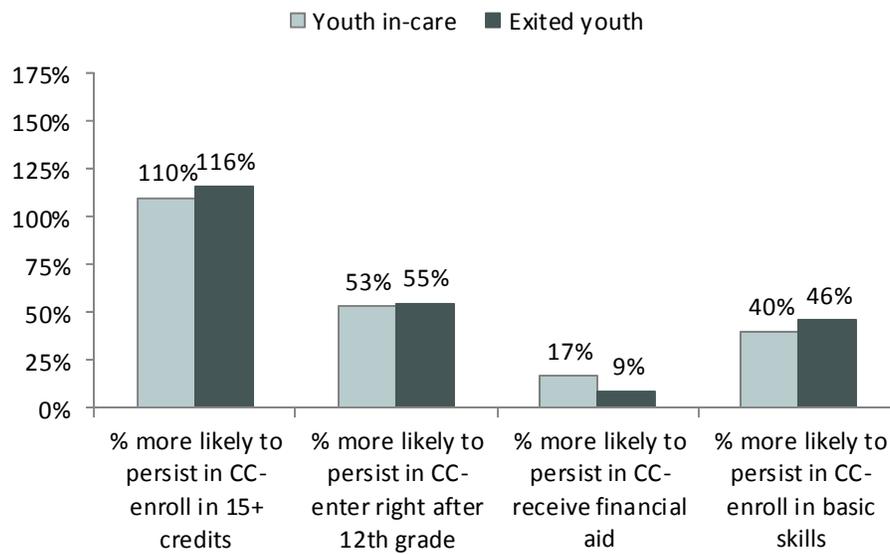
Foster youth who exit before high school and enroll in 15 or more credits in college are 110% more likely to persist in college compared to those who enroll in fewer courses. This finding holds true for foster youth in-care during high school who are 116% more likely to persist with 15 or more credits. Foster youth who enroll in more credits may be more engaged in college or have more supports in place to support their educational pursuits (e.g., financial aid, housing, part-time employment).

Enrollment timing

The timing of college entrance for foster youth may make a difference. Foster youth who delay entrance into community college for one year or more are 40% less likely to persist compared to those who enroll right after 12th grade. Further, for foster youth who are in-care during high school, those who enroll in for-credit college courses while in high school and then enter community college any time post-high school are 22% more likely to persist.

This study included a separate analysis that combined outcomes for both 2- and 4-year institutions. For both groups of foster youth, students who take for-credit classes in high school are over 36% more likely to persist than those who do not take credit courses. It may be that taking credit courses while in high school increases familiarity and lays a foundation for college requirements. Prior research suggests that dual high school and college enrollment are associated with increased credit accrual and persistence,²⁸ especially among low-income and lower achieving students.²⁹

Figure 4: Relative risk estimates for characteristics associated with community college (CC) persistence among foster youth in-care and those who exited prior to high school (English sample)



Financial aid

In community college, credit accrual, financial aid, and persistence are related. Foster youth who receive financial aid are over 8% more likely to persist and those who accrue 15 or more credits in one year are over 100% more likely to persist in community college (Figure 4).

Investigated a different way, youth who receive financial aid are over 40% more likely to accrue 15 or more credits in one year. While the literature suggests that obtaining financial assistance for college is problematic for foster youth,³¹ these findings highlight how important monetary support is to help students stay in college.

Basic skills

Foster youth who enroll in basic skills classes (i.e., below college level) in community college are 30–46% more likely to persist. This finding is inconsistent with prior literature that finds students who enroll in basic skill courses generally do not advance to higher level classes or obtain degrees.³² Future research which investigates course taking patterns and outcomes beyond persistence will help clarify the role of basic skill classes in postsecondary education.

As of July 1, 2012, federal financial aid recipients must obtain a high school diploma or GED. While this change to address a \$2 billion budget gap affects all students,³⁰ it is particularly significant for foster youth. The lack of high school completion coupled with fewer familial resources will curtail the dream of a college education for the 30% of foster youth who do not complete high school but resiliently enter college.



Improving Education Outcomes:

Using findings to guide policy and practice

Findings from this study indicate that high school completion is vital to college success. Unfortunately, compared to other students, foster youth struggle to complete high school. Findings are consistent whether youth exit foster care prior to high school or are in-care during high school. In addition, multiple education and child welfare characteristics are associated with high school and college outcomes. Although this research demonstrates that foster youth as a group struggle in school, each foster youth faces unique educational challenges. Any suggestions to education policy for foster youth must consider avenues to increase the potential of youth doing well in addition to engaging students who struggle.

Existing federal foster youth policy mandates that youth receive appropriate services to meet their education needs while in-care.³³ Unfortunately, states receive little guidance regarding appropriate services or how to meet this objective. In California, AB 490 addresses several education components including school stability, equality of resources, and timely transfer of records.³⁴ Although existing policy brings education to the forefront, little directive is provided regarding how to systematically address and support foster youth education success. In this policy context, the authors propose the following recommendations, which are based on this report and prior research.

Recommendations

Research suggests that high school performance and postsecondary status is influenced by a student's academic trajectory beginning as early as elementary school.³⁵ Of the over 24,000 first entries into foster care each year in California, over 9,800 (41%) school aged youth enter prior to high school.³⁶ While this report focuses on high school and college outcomes, education is a cumulative process with high school and college outcomes dependent upon earlier experiences. Therefore, the most informed point to intervene to improve high school and college outcomes for foster youth begins at entry to foster care.

Policy & Practice Recommendations

- ▶ Education assessment at entry to foster care
- ▶ Ongoing assessment to track progress
- ▶ Personalized education plans based upon assessments to support the goals of high school completion and college success
- ▶ Educate youth and caregivers about the importance of education, opportunities, and supports
- ▶ Utilize existing education resources to help foster youth, especially those in-care during high school or in group homes
- ▶ Consider school quality when designing school continuity policies or school changes for foster youth
- ▶ Increase access to dual enrollment and financial aid

As many parents prioritize education from their child’s first days, education must be a principal focus when youth enter foster care. In order to improve long term outcomes for foster youth, the primary education goals need to center around high school completion and college success. But in order to reach these goals, an understanding of each student’s educational strengths and challenges is essential to provide the proper network of supports.

An education assessment at entry into foster care is an essential ingredient to develop a plan that not only stimulates student’s growth and interests, but demonstrates progress towards the established goals. In addition, on-going assessments at regular intervals will help identify continued areas of focus. Both the assessment and the education plan should be developed in conjunction with a variety of experts. Child welfare personnel, educators, caregivers, and youth—all have specific expertise and knowledge which can help support long term educational goals. Including caregivers and youth is particularly important. As most youth exit foster care prior to 12th grade, highlighting and modeling the benefits of education and providing the means to navigate through the school environment may help caregivers prioritize education in the home and better support educational aspirations. Relating school activities and goals to home activities and experiences may help to keep youth engaged in their educational success.

Though the education assessment can take many forms, it should be a cross-agency effort, involving both the social worker and educators responsible for the student. This education assessment should include

“And then with my math teachers I excelled so much with them and they always gave me praise for doing so well in their classes because I am really good with math. And I never got that at home. And so with them giving me praise I kept wanting to do better and better and excel in their classes.”

-Betty, former foster youth commenting on her high school teachers¹

multiple sources of information including reports from teachers, caregivers, and self-assessments from older youth. Important information to include consists of where the youth attends school, academic performance (e.g., CST performance, coursework), special needs status (e.g., English Language Learner, special education), in addition to how the youth feels towards school and educational goals. The information should be detailed enough in order to develop an education plan that monitors student progress toward high school, college, and career success.

As placement moves are often associated with changing schools,³⁷ the education plan should be updated whenever a youth changes placement, whether it be returning home or to another foster care placement. Youth placed in group homes have increased challenges compared to youth placed in kin homes, and they would benefit from additional supports. In addition, for youth in-care during high school, multiple

placement moves or certain types of exits from foster care may signal a need for increased education supports. Monitoring and adjusting short-term benchmarks may be necessary to reach long term educational goals. Social workers and educators also should consider school quality when recommending school changes for foster youth.

Assessments and subsequent education plans will connect in-care foster youth to appropriate supportive services. There are a variety of existing resources available for school-age foster youth. For example, Foster Youth Services (FYS) are available to school aged youth in out-of-home placement. The program ensures that school records are obtained in a timely fashion, and coordinates counseling, tutoring, mentoring, independent living training, in addition to other services. When youth exit foster care, community services can be utilized to maximize continuity of support. In this study, over half of foster youth who had exited care prior to high school attended poor quality schools. Many of these schools access Title I funds which support extended day care, tutoring and school choice options, in addition to other supportive services.

“She thinks I’m phenomenal. She tells people, ‘oh, she’s in college. She’s doing so great’. I don’t let her know, but it’s like, finally—someone is acknowledging that I actually came through something.”

-former foster youth commenting on her foster parent¹

In addition, increasing access to community college classes prior to high school completion can help youth stay involved in school and increase college success. Programs that use existing concurrent enrollment opportunities or combine academic career preparation tracks (e.g., Linked Learning) can keep foster youth engaged in addition to providing them with a college experience while in high school.

For youth who age-out of placement, colleges currently provide many supports such as priority enrollment, Chaffee Education Training Vouchers, and the Guardian Scholars program. The Guardian Scholars program provides youth with academic counseling, financial aid assistance, and housing among other important services. Extending this program to include youth in-care during high school who reunify with family may provide needed support to help these students succeed in college.

Conclusion

This study is an important step in furthering knowledge about foster youth high school and college outcomes and highlights important characteristics that shape foster youth education performance. Future research that delves deeper into various aspects of youths’ education and foster care experiences will expose patterns and identify additional areas in which to strengthen outcomes. While there are multiple avenues to explore, research that investigates movement in CST levels; course taking patterns in secondary and postsecondary institutions; and the association among school quality, placement, and school moves may help to improve high school and college success for foster youth.





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Technical Appendix

Overview

In 2008, the Stuart Foundation brought together the Institute for Evidence-Based Change (IEBC), the managing agency of the California Partnership for Achieving Student Success (Cal-PASS data system), and the Center for Social Service Research Center (CSSR) at the University of California, Berkeley, to conduct a pilot study of the education outcomes of youth who had been placed in foster care between 1998 and 2008 in four California counties. In 2011, the Stuart Foundation published *First Look*, a summary report of the pilot effort. The project set a precedent for Federal Education Rights and Privacy Act (FERPA) compliant data sharing between education and social services agencies.

Since the successful pilot, the project partners moved forward to study foster youth across California, focusing on two areas of interest: 1) high school and college outcomes, and 2) how various education and child welfare characteristics influence California Standard Test levels over time. The purpose of these investigations is to understand how characteristics of students, their experiences, and their academic performance influence education achievement.

This *Technical Appendix* provides detailed notes about how the analyses were completed for the statewide effort. First this appendix describes the data sources, the data-linking process, and the comparison group selection. Then the foster youth sampling plan is presented, including details about the weighting process used to represent the state foster youth population with the sample data. The variables in the analyses are defined, and the data preparation tasks are outlined. Common acronyms used in the research summaries and data tables presenting findings complete the appendix information.

Data

This study employs two primary data sources to assess education outcomes for foster youth in California: administrative child welfare records from the Child Welfare Services Cases Management System and education records from the California Partnership for Achieving Student Success. Additional data about the schools attended are from the California Department of Education. Below the sources of data, sample and variable creation, and analyses methods are described.

Data Sources

Child Welfare Services Case Management System (CWS/CMS)

The CWS/CMS is a centralized statewide child welfare data system in California. Through an interagency agreement with the California Department of Social Services (CDSS), the Center for Social Service Research (CSSR) /Children Services Archive at the University of California, Berkeley, receives quarterly extracts of CWS/CMS data.

California Partnership for Student Success (Cal-PASS)

Cal-PASS is a statewide initiative that collects, analyzes, and shares student data in order to track student performance in over 56 counties. The consortium houses up to 13 years of education data, including data from both elementary/secondary school districts and public postsecondary institutions (California Community Colleges, California State Universities, and the University of California system).

Cal-PASS is a voluntary data-sharing initiative. A majority of Cal-PASS members have joined the initiative within the last five years, and therefore, data from the last seven years (2004–05 to 2010–11) are the most robust in the Cal-PASS system. When a district joins Cal-PASS, it is asked to transfer the most recent 5 years of data to Cal-PASS, although institutions may decide not to transfer all five years of retrospective data or may transfer selected files (either a subset of files or years of data) to the system. Therefore, the education data available for this project varies by content, district, and school year

California Department of Education

Data from the California Department of Education (CDE) Annual Performance Index (API) provides state rank data as a proxy measure for school quality.

Description of Linking Process/Foster Youth Linked

Youth aged 6 and older with a documented foster placement episode between January 1, 1998, and December 31, 2010 in CWS/CMS were identified from data extract Q1-2011 for inclusion in the study. The extract was completed before the January 2012 revision of FERPA. At the time the data were extracted, FERPA specifically disallowed sharing identifiable between state agencies [4]. Therefore, the data merge and the final dataset maintain the anonymity of the students.

A unique, non-identifiable project identification number for each foster youth was created. Sensitive CWS/CMS data, which include first and last names, date of birth, gender, and social security numbers, underwent an encryption process that created a variable that appears as a string of numbers and letters. Data were encrypted prior to any linkage of records from CWS/CMS and Cal-PASS. The record linkage process used the encrypted data elements in a computer algorithm that evaluated the probability of each linkage according to statistical network properties. A probabilistic method was chosen over exact matching because it has the advantage of linking records in situations where a person's name has changed, a data element is missing, or typographical error occurs. Upon conclusion of the record linkage process, names and social security numbers were permanently deleted from the dataset. Only the unique non-identifiable project identification number which cannot be linked back to either data system remained.

Of the 449,789 unique foster youth identified in CWS/CMS, approximately 242,000 youth were linked to Cal-PASS education data. Table 1 below presents general match results. The table includes counts of unique foster youth matched to various Cal-PASS educational files by school level (e.g., K–12, community college).

The “STAR” data file includes important educational demographic data, such as whether students are English language learners (ELLs) or participate in the National School Lunch Program (NSLP). Therefore, Table A1 includes the number of unique foster youth with STAR data by educational file. For example, of the 449,789 unique foster youth, 120,815 have course data in grades 8–12; of those foster youth, 96,821 have STAR educational demographic data.

Table A1: Unique Foster Youth Matched to Cal-PASS Educational Files and (STAR demographic data) by School Level

Description	Count	Count with STAR
Number of unique foster youth identified from 1998–2010 in CWS/CMS	449,789	146,645
K–12		
California Standards Test (CST): Grades 2 to 11	142,653	142,653
Course: Grades 8 to 12	120,815	96,821
High School Exit Exam (CAHSEE): Grades 10 to 12	43,388	43,387
Award: Grade 12	27,790	20,620
Community College		
Course	63,336	22,717
Award	1,985	365
University		
Course	3,138	1,244
Award	520	53

High School and College Outcomes

The purpose of this investigation is to understand how various characteristics and academic performance influence high school exit and postsecondary entrance and persistence. In addition to foster youth, the study includes comparisons to similar non-foster youth and general population students.

Samples

Foster youth samples

This analysis focuses on cohorts of foster youth who are in grades 9 to 11 during school years 2003–04 to 2006–07. Only youth with Standardized Testing and Reporting (STAR) demographic data are identified for inclusion in these analyses. In addition, foster youth must have had a test score on the California Standards Test (CST) in their cohort grade (e.g., cohort grade 9 and CST score in grade) and one year of course data in grades 9 to 12. Two separate samples are extracted for ELA (English language arts) and math.

Within each of the two samples, three sub-samples of foster youth are defined. The first sample includes youth who are in at least one foster care placement prior to high school and do not have a foster care placement during high school. The second sample includes youth who are in at least one foster care placement while in high school. The study differentiates foster youth who exit care prior to high school and those who are in care in high school to discern any differences based upon leaving care at an earlier age/grade level. The third sample is a

subset of the second sample, (i.e., youth in-care during high school), and includes only those youth who are in a foster care placement in a specified grade, 9–11 (e.g., in the 9th grade cohort and in a foster care placement during 9th grade). This sample is matched closely to non-foster youth students (Table A2).

Table A2: Foster Youth Description, Sample Size, and Percent Overlap Between Academic Focus

Foster Youth Population	Description	Academic Focus	Sample Size	Percent in alternate academic sample*
Exited	Foster youth who exit foster care placement prior to 9 th grade and do not re-enter placement during high school	ELA	9,214	82
		Math	7,948	97
In-Care	Foster youth who are in a foster care placement sometime in 9 th to 11 th grade Note: Academic predictors may not coincide with foster care placement (e.g., student complete 9 th grade CST before foster care placement in 10 th grade).	ELA	11,337	82
		Math	9,556	97
In-Care Foster Youth	A subgroup of the in-care sample that are in foster care at the point of their academic predictors (e.g., youth in-care during 9 th grade with 9 th grade CST data).	ELA	4,060	71
		Math	3,619	79

* For example, 82% of the English exited youth are also in the math exited sample.

Foster youth are assigned to a primary population sample based on foster care placement end and start dates in relation to grade level and school year. As school start dates vary considerably, for this study, a school year begins on September 1 for a given year. For example, if a youth leaves foster care on June 1, 2004, and enters 9th grade on September 1, 2004, the youth is placed in the exited sample. If the youth re-enters foster care on December 1, 2005 (corresponds to the 10th grade), the youth is in the in-care group.

Comparison group

In addition to foster youth, education data are extracted for a group of comparison students not identified as having a foster placement episode but who are similar on several key characteristics. The in-care foster youth sample is matched to comparison students by: grade level, school year, gender, ethnicity, English language learner status, free or reduced price lunch status, primary disability, district or school, state rank, and cohort grade CST level.

General population estimates, stratified sample

Lastly, the study includes a sample of general population students for univariate and bivariate comparison purposes. Students from all participating institutions are randomly sampled by academic year, grade level, ethnicity, and urban/rural locale to correspond with the appropriate state level student proportion. State level proportions are based on data from CDE.

Weighting schema

All foster youth and comparison samples are weighted to ensure that youth with education data represent the appropriate statewide student population for the specific cohort year. The samples are weighted to the appropriate state population by gender, ethnicity, and urban/rural county locale.

Data Element Definitions

The following section provides detail about how the study variables are defined and operationalized. After the variable name, the school segment level (e.g., high School, community college, or university) is identified.

Dependent variables

Variable	Detail
High school completion (HS)	High school completion includes several outcomes in the Cal-PASS data: diploma receipt, graduation through other means (e.g., independent study program), certificate, GED, etc. If a student record had an unknown type but an award data they were counted in an unknown type category.
Enrollment (CC or UNI)	Any student enrolled in for credit classes in a college or university course post 12 th grade and prior to 2010 (Note: Students who solely enroll in physical education classes for credit are omitted).
Persistence (CC or UNI)	<p>The National Center for Education Statistics (NCES) distinguishes between "persistence" and "retention" rates by using retention as an institutional measure and persistence as a student measure (http://nces.ed.gov/npec/pdf/kuh_team_report.pdf). Persistence in postsecondary education is an important indicator of how well students are prepared and continue to be supported through postsecondary education. The persistence rate is used because enrollment events are tracked at the student level and are not confined to a single institution. Students frequently change colleges or attend multiple colleges simultaneously. The calculation counts a student as persisting if they appear in any of the participating institutions. However, it does not reflect enrollment in non-participating institutions.</p> <p>Persistence is measured from the first term enrollment to the following year enrollment. The first term of enrollment is fall or spring, with students starting in a summer term counted as starting in the fall for the purposes of this calculation. For example, if a student first enrolled in college courses in the fall of 2006, they would be coded as 'persisted' if they enrolled in courses in fall 2007.</p>

Independent variables

Education variables

Variable	Detail
CST proficiency (HS)	<p>The California Standards Test (CST), administered every year for students in grades 2 to 11, is used to determine how well students have learned specific grade relevant information. Based on the number of questions answered correctly, students are assigned a scaled score which ranges from 150 to 600. While the scale scores on the CST's look similar year to year, they are based on the composition of total students who complete the test at each grade level for the testing year and are not vertically scaled (i.e. cannot be used to show growth). At each grade level, topic-specific scale scores are converted to an aptitude level which includes far below basic, below basic, basic, proficient, and advanced.</p> <p>Each youth has a CST proficiency score for their assigned cohort grade level. (e.g., 9th grade cohort has 9th grade CST score). CST proficiency is coded 'yes' if the aptitude level is either proficient or advanced.</p>

Variable	Detail
A–G course enrollment (HS)	<p>The University of California Office of the President (UCOP) created the A–G high school course designation to measure if students have the depth and breadth of experience to successfully enter university-level coursework. In these analyses, the study team created a modified A–G course categorization based upon the UCOP A–G course designation and other high school courses enrolled in by university-bound students. This proxy A–G measure overcomes challenges in regards to the accuracy of official A-G codes in the Cal-PASS data system. For each grade level, all students who attended university immediately after high school were selected and the high school records of these students were analyzed to construct course completion pathways from grade 9 to 12. The classes most likely to have been completed by college-bound students are identified in the A–G course enrollment measure.</p> <p>While each youth has a minimum of 1 year of course information, the number of years available in grades 9 to 12 varied for each youth. In order to make the best use of the available data, A–G course enrollment is coded ‘yes’ if the youth ever enrolled in an A–G course in high school.</p>
A–G course success (HS)	For students enrolled in A–G courses, success is defined as receiving a grade of C- or better for the specific course.
Basic skills enrollment (CC)	<p>The category "Basic Skills" at the community college level is different from the "Remedial" course category at the university level. Community college basic skills courses are designed for students who do not have the prerequisite skills to enter a college level course (e.g., degree applicable or transferable course).</p> <p>Basic skills enrollment includes enrolled students who attempted at least one for-credit basic skills course in English or math for the appropriate sample.</p>
Remedial Course Enrollment (UNI)	<p>Remedial course are identified according to the prerequisites of the course and course descriptions available in university catalogs. Remedial English courses include those that are preparatory courses below first-year college composition. Remedial Math courses include courses below the level of college algebra.</p> <p>Remedial course enrollment includes enrolled students who attempted at least one for credit course in English/math.</p>
Credit accrual (CC)	Course credits are totaled across the students’ first year of college enrollment post high school. Categories include those who had 15 or more semester credits over the course of the academic year (approximately half-time enrollment) and those with less than 15 credits. The accrual measure includes all courses in which the student receives credit.
Enrollment Timing (CC)	Enrollment timing signifies when a youth enrolled in community college for-credit classes. (Note: Youth enrolled in physical education classes only are excluded). Categories include: 1) Youth enrolled prior to high school exit in addition to post high school (pre HS exit +post HS); 2) those enrolled right after high school exit (post HS-same year); 3) and those enrolled at least 1 year after high school exit (post HS-1 year +).
Postsecondary status (CC, UNI)	Postsecondary status indicates whether a student enrolled in for credit classes prior to 12 th grade high school exit.
Financial Aid (CC)	Financial aid status is used as a proxy for socioeconomic status at the community college level. The following categories are collapsed to signify that financial aid is received: 1) federal need-based award; 2) other need-based award; 3) federal non-need-based award; 4) a scholarship; 5) and other type of financial aid.

Demographic/achievement gap variables

Variable	Detail
Grade (HS)	Students are assigned to the 9 th , 10 th , or 11 th grade cohorts based on the availability of the first year of CST data.
Academic Year (HS)	Academic year pertains to the first year of data for a given grade level cohort. Years range from 2002–03 to 2006–07.
Gender (HS)	For foster youth, gender (male or female) is based on data from the most recent episode in CWS/CMS. Comparison student gender is obtained from the Cal-PASS STAR data table.
Ethnicity (HS)	Foster youth ethnicity is based on data from the most recent episode in CWS/CMS. Comparison student ethnicity is from the Cal-PASS STAR data table. For all students, multiple ethnicity types are collapsed to form 5 primary categories: 1) White/Asian; 2) Black; 3) Hispanic; 4) Native American; 5) Other.
NSLP-National School Lunch Program (HS)	As a proxy for socioeconomic status, participation in the National School Lunch Program (i.e., receiving free or reduced-price lunch) is included. Eligibility for the program is based on the official federal poverty guidelines. To qualify, family income must be at or below 185% of the current poverty guideline. Participation is based on specific cohort grade level (i.e., for the 9 th grade cohort, we use NSLP status in 9 th grade).
ELL-English Language Learner (HS)	English Language Learner (ELL) status is established by the school. When students are enrolled in school, parents or guardians fill out a Home Language Survey indicating whether English is the primary language. If another language is indicated, students complete the California English Language Development Test (CELDT). The test is administered annually for students classified as English Language Learners. ELL status is based on the specific cohort grade (i.e., for the 9 th grade cohort, we use ELL status in 9 th grade). The original four categories are condensed as follows: students with English as the primary language or those initially fluent English proficient are coded '0'; English learner and reclassified fluent English proficient are coded '1.'
Disability (HS)	The designation of a primary disability is based on a professional assessment and a student-specific Individualized Education Plan (IEP). Students are reassessed at least every three years to determine whether special education services are required. We combined the various types of primary disability (e.g., speech language impairment, specific learning disability, emotional disturbance) into a 'yes' category. Participation is based on specific grade level (i.e., for the 9 th grade cohort, we use disability status in 9 th grade).
School quality (HS)	This study utilizes a condensed scale of the California Statewide Rank (or State Rank) as a proxy for school quality. State rank is based on the Annual Performance Index (API), which measures school performance. API is calculated by converting student performance on state-wide assessment tests into points on the API scale and then averaged by school. All schools that receive an API are ranked in deciles by school type based on grade level of instruction, with a rank of 10 being the highest and 1 the lowest (i.e., poor quality school). State rank is school-year specific. http://www.cde.ca.gov/ta/ac/ap/documents/infoguide09.pdf . The ten initial ranks are collapsed to a scale of 4 for matching purposes as follows: schools receiving a rank between 1 and 3 are defined as poor; school with a rank of 4 or 5 are defined as average; those between 6 and 8 are defined as good; and schools with a rank of 9 or 10 are exceptional. In analyses, school quality is defined as either 'poor' (rank 1 to 3) or 'not poor' (ranks 4 to 10). School quality is based on specific grade level (i.e., for the 9 th grade cohort, we use school rank in 9 th grade).

Child welfare variables

Variable	Detail
Foster youth	In analyses where foster youth were matched closely to non-foster youth, an indicator variable is created for foster youth status.
Removal reason	<p>The primary removal reason is based on the severity of maltreatment. The hierarchy is as follows: sexual abuse, physical abuse, neglect, and other. For example, if reasons of neglect and sexual abuse are indicated, the primary removal reason would be coded as sexual abuse.</p> <p>The categories of removal reason are based on the most recent foster care placement episode and follow the hierarchy delineated above.</p>
Spells	<p>Each time a youth enters a specific foster care placement episode, a 'spell' count is created. The spell continues until an exit from foster care placement is recorded. In this study, spells reflect the total number of times a youth enters foster care from birth to the 12th grade.</p> <p>Categories include: 1) one; 2) two to three; 3) four or more.</p>
Major placement type	<p>Major placement type is based on all available spells (times in foster care). Length of stay in days is calculated for each placement type and summed across spells. The type of placement a foster youth spent the most number of days is deemed the major placement type.</p> <p>Categories include: 1) kin; 2) non-kin (family foster home of nonrelatives); 3) group or residential placements; 4) other (e.g., medical, detention center).</p>
Placement	<p>Placement is based on all available spells (times in foster care). The number of different placements is summed across spells for a total count.</p> <p>Categories include 1) one to two placements; 2) three to four; 3) five or more placements.</p>
Length of stay	<p>Length of stay is based on the total time spent in foster care placement. It is calculated by subtracting the placement episode end date from the start date for each spell and then adding the spell sums together. (Note: less than 1% of FY had no episode end date and all of these youth spent 3+ years in foster care).</p> <p>Categories include 1) less than one year, 0 to 365 days; 2) one to two years, 366 to 730 days; 3) two to three years, 731 to 1,095 days; 4) more than three years, 1,096 or more days.</p>
Exit type	<p>Exit type is based on the most recent foster care episode, e.g., if a youth exits via reunification at age 6, re-enters at age 12 and exits via adoption, exit type is coded as adoption.</p> <p>Categories include: 1) reunification; 2) adoption; 3) legal guardianship; 4) emancipation (aging out); 5) other (e.g. ran away); 6: no exit reason (still in care).</p>
Time since exit (exit sample only)	<p>Length of time since exit is calculated by subtracting the specific cohort school year from the episode end date. A school year is defined as starting on 9/1 and ending on 8/31 the following year. For example, if a foster youth is a member of the 9th-grade 2003-04 cohort, time since exit is calculated by subtracting the most recent episode end date from 9/1/2003.</p> <p>Categories include 1) one to two years; 2) three to four; 3) five years or more.</p>
Referrals since exit (exit sample only)	<p>Referrals since exit is calculated by summing the number of investigated referrals (i.e. unfounded, unsubstantiated/inconclusive, and substantiated) from the most recent episode end date to the specific cohort school year.</p> <p>Categories include 1) no referrals; 2) one to two; 3) three or more referrals.</p>

Analyses

All analyses are performed with SAS version 9.2. Analyses include sample means and proportions for all education, demographic, and child welfare case characteristics. Differences in the means and proportions are calculated among groups. In addition, the study employs modified Poisson regression analyses for binary data as outlined by Zou. This method utilizes a sandwich error term to estimate relative risk. These multivariate analyses examine whether differences in education outcomes among groups remain after controlling for various characteristics.

Limitations

As with any research endeavor, this study has limitations. Data for youth with a documented foster care placement are extracted from CWS/CMS. While we can say with some certainty that comparison students were not in foster care in California, we do not know if these students were the subject of a child maltreatment investigation.

As the two primary data sets involved in the project are administrative, the type of information included in the analyses is limited. Neither data set holds information about mental or physical health or family background characteristics. Additionally, no information about attendance, suspension, or drop-out status is available. Due to stipulations in FERPA, the data set is anonymous. This limits the ability to update information, explore outcomes in a qualitative manner, or link to other datasets.

For the analyses, only students with demographic and education data are included. The education data are limited to districts in the Cal-PASS data system. This limits the foster youth, comparison, and general population samples to students who attended schools with available data. While the foster youth and comparison samples are weighted to mimic the specific state population, the challenge of selection bias remains. Lastly, while we include general population estimates for the purpose of comparison, this population sample is not weighted or used in multivariate analyses and therefore, results should be interpreted with caution.

Acronyms and Definitions

API: Academic Performance Index—Calculated by CDE, the API is a single number, ranging from a low of 200 to a high of 1000, that reflects a school's or a subgroup's performance level, based on the results of statewide testing. The API is calculated by converting a student's performance on statewide assessments across multiple content areas into points on the API scale. These points are then averaged across all students and all tests. Its purpose is to measure the academic performance and growth of schools. <http://www.cde.ca.gov/ta/ac/ap/>

Cal-PASS: California Partnership for Achieving Student Success—is a voluntary consortium consisting of a collaboration of over 8,000 K-16 institutions throughout California. Educational institutions voluntarily agree to upload data into the Cal-PASS databank and designate the terms under which the data can be shared. <http://www.cal-pass.org/>. Through the period of this study, Cal-PASS was administered and managed by the Institute for Evidence-Based Change (IEBC).

CDE: California Department of Education—The California Department of Education oversees the state's K-12 public school system and is responsible for the education of more than seven million children and young adults in more than 9,000 schools. CDE is responsible for enforcing education law and regulations. <http://www.cde.ca.gov/index.asp>

CDSS: California Department of Social Services—is responsible for the oversight and administration of programs serving California's most vulnerable residents including the Children and Family Services Division (i.e. maltreatment and foster care). <http://www.dss.cahwnet.gov/cdssweb/default.htm>

CELDT: California English Language Development Test—A required state test for English language proficiency that is given to students whose primary language is other than English. Students (in kindergarten through grade twelve) whose primary language is not English, based on the Home Language Survey (HLS), take the CELDT within 30 calendar days after they are enrolled in a California public school for the first time to determine if they are English learners. <http://www.cde.ca.gov/ta/tg/el/>

CSSR: Center for Social Services Research—The Center for Social Services Research (CSSR), at the University of California at Berkeley, School of Social Welfare, conducts research, policy analysis and program planning, and evaluation. <http://cssr.berkeley.edu/>

CST: California Standards Test—Developed by Californian education, the test(s) measure student's progress toward achieving State age and grade specific content standards. Students in grades two through eleven take a variety of subject specific tests including English language arts and math. <http://www.startest.org/cst.html>

CWS/CMS: Child Welfare Services Case Management System—CWS/CMS is the California State administrative data system for the Child Welfare System of services. <http://www.hwcws.cahwnet.gov/>

ELL: English Language Learner—An ELL is a K–12 student who, based on objective assessment, has not developed listening, speaking, reading, and writing proficiencies in English sufficient for participation in the regular school program. See **CELDT**.

FERPA: Federal Educational Rights and Privacy Act—FERPA (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under the U.S. Department of Education. <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>

IEBC: The Institute for Evidence-Based Change is a national nonprofit organization committed to effective data use and collaboration among education's stakeholders. Created by the founders of Cal-PASS, IEBC helps education stakeholders use data to make informed decisions, improve practice, and increase student success. <http://www.iebcnow.org>

IEP: Individualized Education Plan—In U.S., the Individuals with Disabilities Education Act (IDEA) requires public schools to develop an IEP for every student with a disability who is found to meet the federal and state requirements for special education. The IEP describes specifics as to how the educational program designed will meet that child's unique needs.

NSLP: National School Lunch Program—The National School Lunch Program, established in 1946, is a federally assisted meal program operating in public and nonprofit private schools and residential child care institutions. It provides low-cost or free lunches to children each school day. <http://www.fns.usda.gov/cnd/Lunch/>

STAR: Standardized Testing and Reporting—The California standardized tests, which include the current California Standardized Test (CST), and previous tests such as the CAT/6. <http://star.cde.ca.gov/>

Tables Appendix

Table A3: Foster Youth Demographic, Child Welfare, and Academic Variables by number/percent & significant difference between proportions

		English Sample						Math Sample					
		Exited Prior to High School		In-Care During High School		Difference Between Proportions		Exited Prior to High School		In-Care During High School		Difference Between Proportions	
Sample Size		9,214		11,337				7,948		9,556			
		n	%	n	%	Y/N	P-value	n	%	n	%	Y/N	P-value
Grade	9	4924	53	6289	55	N		4760	60	5941	62	Y	.04
	10	2533	27	3280	29	N		1823	23	2308	24	N	
	11	1757	19	1768	16	N		1365	17	1307	14	Y	.03
Academic Year	2002–03	754	8	1349	12	Y	.00	605	8	1114	12	Y	.01
	2003–04	3593	39	4473	39	N		3025	38	3692	39	N	
	2004–05	3515	38	4150	37	N		3216	40	3718	39	N	
	2005–06	467	5	599	5	N		368	5	431	5	N	
	2006–07	885	10	766	7	Y	.03	734	9	601	6	Y	.04
Gender	Female	4848	53	6393	56	Y	.00	4210	53	5417	57	Y	<.0001
Ethnicity	White/Asian	2819	31	3190	28	Y	.01	2412	30	2653	28	N	
	Black	2579	28	3843	34	Y	<.0001	2281	29	3244	34	Y	<.0001
	Hispanic	3716	40	4203	37	Y	.01	3170	40	3579	37	Y	.01
	Native American	71	1	84	1	N		59	1	68	1	N	
	Other	29	0	17	0	N		26	0	12	0	N	
NSLP	Yes	4932	54	6272	55	N		4308	54	5320	56	Y	.05
ELL	Yes	1685	18	1703	15	Y	.02	1477	19	1524	16	Y	.03
Disability	Yes	1819	20	2684	24	Y	.00	1436	18	2056	22	Y	.00
School Quality	Poor	4845	53	5877	52	N		4067	51	4854	51	N	
CHILD WELFARE													
Removal Reason	Neglect	5250	57	7594	67	Y	<.0001	4500	57	6438	67	Y	<.0001
	Physical abuse	1554	17	1416	12	Y	<.0001	1371	17	1216	13	Y	.00
	Sexual abuse	753	8	686	6	N		643	8	592	6	N	
	Other	1657	18	1641	14	Y	.00	1434	18	1310	14	Y	.00
Spells	1	7242	79	7016	62	Y	<.0001	6306	79	6010	63	Y	<.0001
	2 to 3	1826	20	3831	34	Y	<.0001	1521	19	3175	33	Y	<.0001
	3 or more	146	2	490	1	N		121	2	371	4	N	
Major Placement Type	Kin	4701	51	3874	34	Y	<.0001	4103	52	3341	35	Y	<.0001
	Non-kin	2939	32	4166	37	N		2534	32	3499	37	Y	<.0001
	Group	536	6	1612	14	Y	<.0001	418	5	1253	13	Y	<.0001
	Other	1038	11	1685	15	Y	.00	893	11	1463	15	Y	.00

Table A3 Continued: Foster Youth Demographic, Child Welfare, and Academic Variables by number/percent & significant difference between proportions

		English Sample						Math Sample					
		Exited Prior to High School		In-Care During High School		Difference Between Proportions		Exited Prior to High School		In-Care During High School		Difference Between Proportions	
Sample Size		9,214		11,337				7,948		9,556			
		n	%	n	%	Y/N	P-value	n	%	n	%	Y/N	P-value
Placements	1 to 2	5571	60	3495	31	Y	<.0001	4863	61	3096	32	Y	<.0001
	3 to 5	2844	31	3552	31	N		2422	30	3022	32	N	
	5 or more	799	9	4290	38	Y	<.0001	663	8	3438	36	Y	<.0001
Length of stay	Less than 1 year	3044	33	1703	15	Y	<.0001	2609	33	1512	16	Y	<.0001
	1 to 2 years	2070	22	1404	12	Y	<.0001	1805	23	1194	12	Y	<.0001
	2 to 3 years	1081	12	1011	9	Y	.03	918	12	820	9	Y	.04
	3 plus years	3019	33	7219	64	Y	<.0001	2616	33	6030	63	Y	<.0001
Exit Type	Reunification	6408	70	3101	27	Y	<.0001	5518	69	2682	28	Y	<.0001
	Adoption	994	11	306	3	Y	<.0001	873	11	265	3	Y	<.0001
	Legal guardian	1457	16	659	6	Y	<.0001	1275	16	580	6	Y	<.0001
	Emancipation	--	--	6173	54	Y	<.0001	--	--	5152	54	Y	<.0001
	Other	355	4	979	9	Y	.00	282	3	766	8	Y	.00
	No exit reason	--	--	119	1	N		--	--	111	1	N	
Time Since Exit	1 to 2 years	2907	32	---	---	---		2413	30	---	---	---	
	3 to 4 years	3292	36	---	---	---		2849	36	---	---	---	
	5 or more years	3015	33	---	---	---		2689	34	---	---	---	
Referrals Since Exit	None (0)	5243	57	---	---	---		3743	47	---	---	---	
	1 to 2	2140	23	---	---	---		1846	23	---	---	---	
	3 or more	1831	20	---	---	---		2359	30	---	---	---	
High School													
CST level	Far below basic	2148	23	3007	27	Y	.00	2004	25	2669	28	Y	.02
	Below basic	2535	28	3147	28	N		3478	44	4294	45	N	
	Basic	2682	29	3220	28	N		1771	22	1821	19	Y	.03
	Proficient	1355	15	1425	13	N		591	7	663	7	N	
	Advanced	494	5	538	5	N		104	1	109	1	N	
A-G course	Enrolled	8653	94	1055	93	N		6749	85	8223	86	N	
	Successful	1761	78	8627	76	N		4758	60	5821	61	N	
Completion	Yes	4184	45	4537	40	Y	<.0001	3739	47	3984	42	Y	<.0001
	Missing	21	0	21	0	N		17	0	16	0	N	
Completion Type	Diploma	3742	89	3951	87	N		3354	90	3485	87	Y	
	Graduated	108	3	143	3	N		93	2	124	3	N	
	Certificate	303	7	393	9	N		268	7	332	8	N	<.0001
	GED	9	0	14	0	N		7	0	10	0	N	
	Unknown	22	1	37	1	N		17	0	34	1	N	

Table A3 Continued: Foster Youth Demographic, Child Welfare, and Academic Variables by number/percent & significant difference between proportions

		English Sample						Math Sample					
		Exited Prior to High School		In-Care During High School		Difference Between Proportions		Exited Prior to High School		In-Care During High School		Difference Between Proportions	
Sample Size		9,214		11,337				7,948		9,556			
		n	%	n	%	Y/N	P-value	n	%	n	%	Y/N	P-value
Community College (2 Year)													
Enrollment	Yes	3637	39	4661	41	N		3228	41	4000	42	N	
Timing	Pre HS exit + post HS	414	11	596	13	N		370	12	493	12	N	
	Post HS-same year	1843	51	2402	52	N		1665	52	2093	52	N	
	Post HS- 1 year+	1380	38	1663	36	N		1193	37	1414	35	N	
Persistence	Yes	1467	40	1814	39	N		1342	42	1597	40	N	
Basic skills course	Yes	1069	29	1506	32	Y	.00	176	5	232	6	N	
Credit units	15 or more	816	22	907	20	N		754	23	818	20	N	
Financial aid	Yes	1578	43	2418	52	Y	<.0001	1385	43	2086	52	Y	<.0001
University (4 Year)													
Enrollment	Yes	403	4	444	4	N		392	5	426	4	N	
Status	CC in HS	15	4	27	6	N		15	4	25	6	N	
	CC transfer	230	57	236	53	N		221	56	226	53	N	
	University only	158	39	181	41	N		156	40	175	41	N	
Persistence	Yes	192	48	214	48	N		188	48	212	50	N	
Remedial course	Yes	159	39	186	42	N		179	46	207	49	N	
High School to college pathways^{1,2}													
HS=yes/CC=yes		2352	56	2645	58	N		2127	57	2352	59	N	
HS=yes/CC=yes/Persist=yes		1091	26	1242	27	N		990	27	1113	28	N	
HS=no/CC=yes		1281	26	2013	30	Y	.00	1099	26	1646	27	N	
HS=no/CC=yes/Persist=yes		375	8	572	8	N		351	8	484	9	N	
HS=yes/UNI=yes		356	9	377	8	N		345	9	362	9	N	
HS=yes/UNI=yes/Persist=yes		178	4	186	4	N		173	5	180	5	N	
HS=no/UNI=yes		47	1	67	1	N		47	1	64	1	N	
HS=no/UNI=yes/Persist=yes		14	0	28	0	N		15	0	32	1	N	
HS=yes/CC=yes/UNI=yes		200	5	203	5	N		192	5	182	5	N	
HS=no/CC=yes/UNI=yes		21	0	32	1	N		20	1	31	1	N	
HS=yes/CC=no/UNI=no		1676	40	1718	38	N		1459	39	1452	36	N	
HS=no/CC=no/UNI=no		3702	74	4731	70	Y	.01	3066	73	3877	64	Y	<.0001

¹HS=High School, CC=Community college, UNI=University, yes=completed, entered, persisted, no=not completed, did not enter or persist

²Denominator for pathways is students who completed or did not complete high school.

Note: Percent totals may not add up to '1' due to rounding.

Table A4: Foster Youth and Comparison Student Demographic, Child Welfare, and Academic Variables by number/percent & significant difference between proportions

		English Sample						Math Sample					
		Foster Youth		Comparison		Difference Between Proportions		Foster Youth		Comparison		Difference Between Proportions	
Sample Size		4,060		4,060				3,619		3,619			
		n	%	n	%	Y/N	P-value	n	%	n	%	Y/N	P-value
Grade	9	2337	58	2337	58	N		2081	58	2081	58	N	
	10	1137	28	1137	28	N		901	25	901	25	N	
	11	586	14	586	14	N		637	18	637	18	N	
Academic Year	2002-03	548	13	548	13	N		373	10	373	10	N	
	2003-04	1764	43	1764	43	N		1665	46	1665	46	N	
	2004-05	1336	33	1336	33	N		1190	33	1190	33	N	
	2005-06	177	4	177	4	N		126	3	126	3	N	
	2006-07	235	6	235	6	N		265	7	265	7	N	
Gender	Female	2209	54	2209	54	N		2008	55	2008	55	N	
Ethnicity	White/Asian	1042	26	1042	26	N		900	25	900	25	N	
	Black	1392	34	1392	34	N		1268	35	1268	35	N	
	Hispanic	1613	40	1613	40	N		1445	40	1445	40	N	
	Native American	13	0	13	0	N		6	0	6	0	N	
	Other	0	0	0	0	N		0	0	0	0	N	
NSLP	Yes	2522	62	2522	62	N		2270	63	2270	63	N	
ELL	Yes	645	16	645	16	N		600	17	600	17	N	
Disability	Yes	667	16	667	16	N		543	15	543	15	N	
School Quality	Poor	2058	51	2058	51	N		1864	52	1864	52	N	
High School													
CST level	Far below basic	948	23	948	23	N		1005	28	1005	28	N	
	Below basic	1112	27	1112	27	N		1665	46	1665	46	N	
	Basic	1231	30	1231	30	N		729	20	729	20	N	
	Proficient	596	15	596	15	N		205	6	205	6	N	
	Advanced	173	4	173	4	N		15	0	15	0	N	
A–G course	Enrolled	3783	93	3185	78	Y	<.0001	3059	85	3221	89	Y	<.0001
	Successful	3088	76	3095	76	N		2118	59	2327	64	Y	.00
Completion	Yes	1808	45	2150	53	Y	<.0001	1648	46	1929	54	Y	<.0001
	Missing	4	0	0	0	N		3	0	0	0	N	
Completion Type	Diploma	1584	88	1897	88	N		1464	87	1731	88	N	
	Graduated	68	4	72	3	N		57	3	68	3	N	
	Certificate	139	8	170	8	N		124	7	129	7	N	
	GED	5	0	1	0	N		3	0	1	0	N	
	Unknown	12	1	10	0	N		14	3	7	2	N	

Table A4 Continued : Foster Youth and Comparison Student Demographic, Child Welfare, and Academic Variables by number/percent & significant difference between proportions

		English Sample						Math Sample					
		Foster Youth		Comparison		Difference Between Proportions		Foster Youth		Comparison		Difference Between Proportions	
Sample Size		4,060		4,060				3,619		3,619			
		n	%	n	%	Y/N	P-value	n	%	n	%	Y/N	P-value
Community College (2 Year)													
Enrollment	Yes	1760	43	1862	46	N		1566	43	1671	46	N	
Timing	Pre HS exit + post HS	213	12	247	13	N		190	12	228	14	N	
	Post HS-same year	904	51	65	52	N		818	52	848	51	N	
	Post HS- 1 year+	643	37	650	35	N		558	36	595	36	N	
Persistence	Yes	725	41	894	48	Y	.01	656	42	761	46	N	
Basic skills course	Yes	598	34	555	30	N		92	6	88	5	N	
Credit units	15 or more	373	21	500	27	Y	.04	332	21	410	25	N	
Financial aid	Yes	939	53	716	39	Y	<.0001	845	54	623	37	Y	<.0001
University (4 Year)													
Enrollment	Yes	190	5	261	6	N		176	5	242	7	N	
Status	CC in HS	10	5	13	5	N		6	3	12	5	N	
	CC transfer	99	52	163	62	N		91	52	141	58	N	
	University only	81	43	85	33	N		79	45	89	37	N	
Persistence	Yes	81	48	143	53	N		94	53	126	52	N	
Remedial course	Yes	134	42	103	38	N		92	52	109	45	N	
High School to college pathways^{1 2}													
HS=yes/CC=yes		1090	60	1306	61	N		1003	61	1168	61	N	
HS=yes/CC=yes/Persist=yes		534	30	695	32	N		490	30	605	31	N	
HS=no/CC=yes		670	30	556	29	N		562	29	503	30	N	
HS=no/CC=yes/Persist=yes		191	9	199	10	N		166	8	156	9	N	
HS=yes/UNI=yes		170	9	237	11	N		155	9	207	11	N	
HS=yes/UNI=yes/Persist=yes		89	5	128	6	N		83	5	112	6	N	
HS=no/UNI=yes		20	1	24	1	N		21	1	35	2	N	
HS=no/UNI=yes/Persist=yes		8	0	9	0	N		11	1	14	1	N	
HS=yes/CC=yes/UNI=yes		86	5	146	7	N		76	5	119	6	N	
HS=no/CC=yes/UNI=yes		8	0	13	1	N		9	1	20	1	N	
HS=yes/CC=no/UNI=no		634	35	753	35	N		581	35	680	35	N	
HS=no/CC=no/UNI=no		1566	70	1343	70	N		1379	70	1165	69	N	

¹HS=High School, CC=Community college, UNI=University, yes=completed, entered, persisted, no=not completed, did not enter or persist

²Denominator for pathways is students who completed or did not complete high school

Note: Percent totals may not add up to '1' due to rounding.

Table A5: Stratified General Population Demographic and Academic Variables by number/percent

Sample Size		99,895	
		N	%
Grade	9	33725	34
	10	39988	40
	11	26182	26
Academic Year	2002–03	24490	25
	2003–04	30557	31
	2004–05	23551	24
	2005–06	10986	11
	2006–07	10311	10
Gender	Female	50253	50
Ethnicity	White/Asian	45703	46
	Black	9110	9
	Hispanic	42343	42
	Native American	744	1
	Other	1995	2
NSLP	Yes	29765	40
ELL	Yes	25207	34
Disability	Yes	6637	9
School Quality	Poor	2996	40
High School			
CST ELA (N=73678)	Far below basic	10024	14
	Below basic	13873	19
	Basic	22265	30
	Proficient	16785	23
	Advanced	10731	15
CST Math (N=66138)	Far below basic	9964	15
	Below basic	24670	37
	Basic	18955	29
	Proficient	10109	15
	Advanced	2440	4
A–G course— ELA (N=97218)	Enrolled	90663	93
	Successful	78323	86
A–G course— Math (N=97218)	Enrolled	73477	76
	Successful	51571	70
Completion	Yes	79,317	79
	Missing	0	0
Completion Type	Diploma	72844	91
	Graduated (other)	1471	2
	Certificate	4601	6
	GED	59	0
	Unknown	342	0

Table A5 Continued: Stratified General Population Demographic and Academic Variables by number/percent

Sample Size		99,895	
		N	%
Community College (2 Year)			
Enrollment	Yes	59211	59
Timing	Pre HS exit + post HS	3367	6
	Post HS-same year	40472	68
	Post HS- 1 year+	15372	26
Persistence	Yes	36487	62
Basic skills course	Math Yes	16088	27
	English Yes	14861	25
Credit units	15 or more	21767	37
Financial aid	Yes	28244	48
University (4 Year)			
Enrollment	Yes	12813	13
Status	CC in HS	1107	9
	CC transfer	6728	52
	University only	4978	39
Persistence	Yes	9266	72
Remedial course	Math Yes	3459	27
	English Yes	3600	28
High School to college pathways^{1 2}			
HS=yes/CC=yes		51,254	65
HS=yes/CC=yes/Persist=yes		32,319	63
HS=no/CC=yes		7,957	39
HS=no/CC=yes/Persist=yes		4,168	52
HS=yes/UNI=yes		12,222	15
HS=yes/UNI=yes/Persist=yes		8,891	73
HS=no/UNI=yes		591	3
HS=no/UNI=yes/Persist=yes		375	63
HS=yes/CC=yes/UNI=yes		6451	8
HS=no/CC=yes/UNI=yes		277	1
HS=yes/CC=no/UNI=no		22294	28
HS=no/CC=no/UNI=no		12307	60

Table A6: English Multivariate Analyses, Foster Youth who Exited Prior to High School

			High School Completion			Community College Enrollment			Community College Persistence			Post-Secondary Enrollment			Post-Secondary Persistence		
Sample Size			9,214			9,214			3,637			9,214			3,819		
Variable	Reference Group		Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value
Grade	9	10 11	.06 .22	1.06 1.25	.01 <.0001	.01 -.02	1.01 .98		.09 .09	1.09 1.09	.03	.02 -.02	1.02 .98		.02 -.01	1.02 .99	
Gender	Female	Male	-.05	.95	.04	-.09	.91	.00	-.02	.98		-.10	.91	<.0001	-.06	.94	
Ethnicity	White/Asian	Black	.07	1.07	.02	.25	1.28	<.0001	.04	1.04		.27	1.31	<.0001	.02	1.02	
		Hispanic	.02	1.02		.03	1.03		-.01	.99		.03	1.03		-.03	.97	
		Native American	-.24	.79		-.14	.87		.26	1.30		-.18	.84		.03	1.03	
		Other*	-.21	.81		.25	1.28		.24	1.27		.29	1.34		.07	1.07	
NSLP	No	Yes	.03	1.03		-.10	.91	.00	-.14	.87	.00	-.07	.94	.01	-.09	.94	.02
ELL	No	Yes	.11	1.12	.00	.04	1.04		.06	1.06		.05	1.05		.09	1.09	
Disability	No	Yes	-.02	.98		-.16	.85	<.0001	-.09	.91		-.18	.84	<.0001	-.12	.89	.04
School Quality	Not Poor	Poor	-.25	.78	<.0001	-.08	.93	.01	-.06	.94		-.08	.92	.00	-.15	.86	.00
Removal Reason	Neglect	Physical Abuse	.02	1.02		.04	1.04		-.05	.95		.02	1.02		-.08	.92	
		Sexual Abuse	-.98	.98		-.01	.99		.07	1.07		-.02	.98		.07	1.07	
		Other	.04	1.04		.08	1.08	.02	.06	1.06		.08	1.08	.01	.01	1.01	
Spells	1	2 to 3	-.05	.95		-.04	.96		.07	1.07		-.05	.95		.08	1.08	
		4 or more	.03	1.03		.14	1.15		.04	1.04		.14	1.15		-.03	.97	
Major Placement Type	Kin	Non-kin	.02	1.02		-.07	.93	.03	.00	1.00		-.06	.94		.00	1.00	
		Group	-.21	.81	.00	-.21	.81	.00	.08	1.08		-.20	.82	.00	.09	1.09	
		Other	.00	1.00		-.01	.99		.05	1.05		-.01	.99	.04	.12	1.13	.04
Placement s	1 to 2	3 to 4	-.03	.97		-.01	.99		-.11	.90	.02	-.02	.98		-.11	.90	.03
		5 or more	-.05	.95		.01	1.01		-.20	.82	.04	.02	1.02		-.18	.84	.05
Length of Stay	Less than 1 year	1 to 2	.05	1.05		.03	1.03		.03	1.03		.01	1.01		.00	1.00	
		2 to 3	-.02	.98		.04	1.04		-.01	.99		.03	1.03		-.01	.99	
		3 +	.00	1.00		.05	1.05		.00	1.00		.03	1.03		-.04	.96	
Exit Type	Reunification	Adoption	.06	1.06		.00	.99		-.15	.86	.03	-.01	.99		-.11	.90	
		L. Guardianship	.12	1.13	.00	.08	.92		-.08	.92		-.06	.94		-.06	.94	
		Other	-.04	.96		.06	1.06		.06	1.06		.04	1.04		.05	1.05	
		No Exit Reason															
Time Since Exit	1 to 2 years	3 to 4	.06	1.06	.02	.04	1.04		-.10	.90	.03	.03	1.03		-.08	.92	
		5 or more	.07	1.07	.01	-.04	.96		-.18	.84	.00	-.03	.97		-.08	.92	
Referrals Since Exit	None (0)	1 to 2	-.15	.86	<.0001	-.14	.87	<.0001	.00	1.00	.02	-.13	.88	<.0001	.00	1.00	
		3 or more	-.27	.76	<.0001	-.23	.79	<.0001	-.14	.87		-.23	.80	<.0001	-.10	.91	
CST	Not Proficient	Proficient	.33	1.39	<.0001	.11	1.12	.00	.17	1.19	<.0001	.19	.21	<.0001	.25	1.28	<.0001
A–G course	Not Successful	Successful	.95	2.59	<.0001	.21	1.24	<.0001	.07	1.07		.22	1.25	<.0001	.14	1.15	.04
High School	No Completion	Completed				.68	1.97	<.0001	.18	1.20	.00	.70	2.02	<.0001	.38	1.47	<.0001

Table A6 Continued: English Multivariate Analyses, Foster Youth who Exited Prior to High School

			High School Completion			Community College Enrollment			Community College Persistence			Post-Secondary Enrollment			Post-Secondary Persistence		
	Sample Size		9,214			9,214			3,637			9,214			3,819		
Variable	Reference Group		Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value
Basic Skills Class	Not Enrolled	Enrolled							.34	1.40	<.0001				.44	1.55	<.0001
Financial Aid	No	Yes							.16	1.17	<.0001						
Credit Accrual	Less than 15 units	15 units or more							.74	2.10	<.0001						
CC Entrance Timing	Right after 12 th grade	Delayed 1 year or more HS credits + post							-.76	.47	<.0001						
									.12	1.13	.02						
Ps status	No HS credit classes	HS credit classes													.38	1.46	<.0001
Intercept			-1.65 (.06)			-1.35 (.06)			-1.16 (.10)			-1.37 (.06)			-1.28 (.10)		
*small sample size																	

Table A7: English Multivariate Analyses, Foster Youth In-Care During High School

		High School Completion			Community College Enrollment			Community College Persistence			Post-Secondary Enrollment			Post-Secondary Persistence			
Sample Size		11,337			11,337			4,661			11,337			4,870			
Variable	Reference Group		Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value
Grade	9	10 11	.07 .30	1.07 1.35	.01 <.0001	-.05 -.14	.95 .87		.09 .09	1.09 1.09	.02 .04	-.05 -.13	.95 .88	.04 <.0001	.08 .07	1.08 1.07	.04
Gender	Female	Male	-.02	.98		-.05	.95		.06	1.06		-.06	.95	.01	.04	1.04	
Ethnicity	White/Asian	Black	.03	1.03		.27	1.31	<.0001	.02	1.02		.26	1.30	<.0001	.02	1.02	
		Hispanic	.00	1.00		.00	1.00		-.05	.95		-.02	.98		-.10	.91	.03
		Native American	-.51	.60	.01	.18	1.20		.04	1.04		.14	1.15		.08	1.08	
		Other*	-.33	.72		-.27	.76		.06	1.06		-.15	.86		.38	1.46	
NSLP	No	Yes	.08	1.09	.00	-.06	.94	.01	-.02	.98		-.05	.95	.01	-.02	.98	
ELL	No	Yes	.11	1.12	.00	.15	1.16	<.0001	.05	1.05		.17	1.18	<.0001	.15	1.16	.00
Disability	No	Yes	.06	1.06	.04	-.16	.86	<.0001	-.10	.90	.02	-.18	.84	<.0001	-.17	.84	.00
School Quality	Not Poor	Poor	-.21	.81	<.0001	-.02	.99		-.07	.93	.04	-.01	.99		-.11	.90	.00
Removal Reason	Neglect	Physical Abuse	.02	1.02		.06	1.06		.00	1.00		.03	1.03		.02	1.02	
		Sexual Abuse	.04	1.04		.06	1.06		-.02	.98		.07	1.07		.10	1.11	
		Other	-.02	.98		.05	1.05		-.05	.95		.06	1.06		-.02	.98	
Spells	1	2 to 3	.03	1.03		.00	1.00		.07	1.07		.00	1.00		.06	1.06	
		4 or more	.10	1.11		.06	1.06		.12	1.13		.05	1.05		.17	1.19	.03
Major Placement Type	Kin	Non-kin	.05	1.05	<.0001	-.05	.95		.06	1.06		-.03	.97		.06	1.06	
		Group	-.23	.79		.01	1.01		.07	1.07		.03	1.03		.07	1.07	
		Other	.04	1.04		-.12	.89	.00	.04	1.04		-.12	.89		.06	1.06	
Place-ments	1 to 2	3 to 4	-.14	.87	<.0001	-.05	.95		-.03	.97		-.05	.95		-.02	.98	
		5 or more	-.37	.69	<.0001	-.09	.91	.01	-.17	.84	.00	-.11	.90	.00	-.17	.84	.00
Length of Stay	Less than 1 year	1 to 2	-.03	.97		.06	1.06		-.20	.82	.00	.06	1.06		-.10	.91	
		2 to 3	.00	1.00		.12	1.13	.02	-.10	.90		.12	1.13	.02	-.05	.95	
		3 +	.13	1.14	.00	.13	1.14	.00	-.09	.91		.15	1.16	.00	-.02	.98	
Exit Type	Reunification	Adoption	.33	1.39	<.0001	.02	1.02		.01	1.01		.05	1.05		.07	1.07	
		L. Guardianship	.27	1.31	<.0001	.03	1.03		-.05	.95	.04	.06	1.06		-.07	.93	
		Emancipation	.19	1.20	<.0001	.17	1.19	<.0001	.06	1.06		.16	1.17	<.0001	.04	1.04	
		Other	-.50	.61	<.0001	-.05	.95		-.20	.82		-.07	.93		-.30	.74	.00
		No Exit Reason	-.16	.85	<.0001	.09	1.09		-.04	.96		.05	1.05		-.08	.92	
CST	Not Proficient	Proficient	.29	1.33	<.0001	.13	1.14	<.0001	.14	1.15	.00	.19	1.21	<.0001	.21	1.23	<.0001
A-G course	Not Successful	Successful	.89	2.43	<.0001	.18	1.20	<.0001	.00	1.00		.20	1.23	<.0001	.05	1.05	
High School	No Completion	Completed				.61	1.84	<.0001	.28	1.32	.00	.64	1.89	<.0001	.39	1.48	<.0001

Table A7 Continued: English Multivariate Analyses, Foster Youth In-Care During High School

		High School Completion			Community College Enrollment			Community College Persistence			Post-Secondary Enrollment			Post-Secondary Persistence			
	Sample Size	11,337			11,337			4,661			11,337			4,870			
Variable	Reference Group		Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value
Basic Skills Class	Not Enrolled	Enrolled							.38	1.46	<.0001				.52	1.67	<.0001
Financial Aid	No	Yes							.08	1.09	.02						
Credit Accrual	Less than 15 units	15 units or more							.77	2.16	<.0001						
CC Entrance Timing	Right after 12 th grade	Delayed 1 year or more HS credits + post							-.80	.45	<.0001						
									.20	1.22	<.0001						
Ps status	No HS credit classes	HS credit classes													.35	1.42	<.0001
Intercept			-1.79 (.06)			-1.49 (.06)			-1.33 (.09)			-1.48 (.05)			-1.47 (.09)		

*small sample size

Table A8: Math Multivariate Analyses, Foster Youth who Exited Prior to High School

		High School Completion			Community College Enrollment			Community College Persistence			Post-Secondary Enrollment			Post-Secondary Persistence			
Sample Size		7,948			7,948			3,228			7,948			3,408			
Variable	Reference Group		Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value
Grade	9	10	.18	1.20	<.0001	.05	1.05		.09	1.09	.05	.06	1.06	.03	.02	1.02	
		11	.42	1.52	<.0001	.01	1.00		.11	1.12		.00	.00		-.01	.99	
Gender	Female	Male	-.09	.91	.00	-.11	.90	<.0001	-.04	.96		-.12	.87	<.0001	-.07	.93	
Ethnicity	White/Asian	Black	.05	1.05		.23	1.26	<.0001	.05	1.05		.25	1.28	<.0001	.01	1.01	
		Hispanic	-.01	.99		.01	1.00		.00	1.00		.01	1.01		-.01	.99	
		Native American	-.21	.81		-.13	.88		.38	1.46		-.19	.83		.18	1.20	
		Other*	-.20	.82		.15	1.16		.20	1.22		.17	1.19		.10	1.11	
NSLP	No	Yes	.02	1.02		-.11	.90	.00	-.12	.89	.00	-.08	.93	.00	-.09	.91	.02
ELL	No	Yes	.10	1.11	.00	.02	1.02		.06	1.06		.03	1.03		.09	1.09	
Disability	No	Yes	-.09	.91	.01	-.14	.87	.00	-.06	.94		-.18	.84	<.0001	-.07	.93	
School Quality	Not Poor	Poor	-.24	.79	<.0001	-.08	.93	.01	-.10	.91	.02	-.09	.92	.00	-.18	.83	<.0001
Removal Reason	Neglect	Physical Abuse	.03	1.03		.04	1.04		-.07	.93		.03	1.03		-.09	.91	
		Sexual Abuse	-.02	.97		.01	1.01		.04	1.04		.00	1.00		.04	1.04	
		Other	-.06	1.07	.04	.07	1.07	.03	.04	1.04		.08	1.08	.01	.01	1.01	
Spells	1	2 to 3	-.02	.97		-.03	.97		.09	1.09		.17	1.19		.08	1.08	
		4 or more	.03	1.03		.17	1.18		.09	1.09		-.03	.97		.03	1.03	
Major Placement Type	Kin	Non-kin	.02	1.02		-.06	.94	.05	.01	1.01		-.06	.94		.01	1.01	
		Group	-.19	.80	.00	-.23	.79	.00	.13	1.14		-.23	.79	.00	.14	1.15	
		Other	.02	1.02		-.01	.99		.08	1.09		-.01	.99		.13	1.14	.03
Placement s	1 to 2	3 to 4	-.03	.97		-.03	.97		-.12	.89	.02	-.03	.97		-.12	.89	.02
		5 or more	.01	1.01		.01	1.01		-.16	.85		.02	1.02		-.13	.88	
Length of Stay	Less than 1 year	1 to 2	.08	1.05		.04	1.04		.05	1.05		.02	1.04		.03	1.03	
		2 to 3	-.02	.98		.05	1.05		.02	1.02		.04	1.04		.02	1.02	
		3 +	.02	1.02		.05	1.05		.05	1.05		.04	1.04		-.01	.99	
Exit Type	Reunification	Adoption	.14	1.15	.00	.00	1.00	.05	-.15	.86	.03	-.01	.99		-.11	.90	
		L. Guardianship	.13	1.14	.00	-.08	.92		-.09	.91		-.07	.93		-.06	.94	
		Other	.06	1.11		.11	1.12		.10	1.11		.11	1.12		.12	1.13	
		No Exit Reason	--	---		--	--		--	--		--	--		--	--	
Time Since Exit	1 to 2 years	3 to 4	.00	.99		.03	1.03		-.13	.88	.00	.03	1.05		-.11	.90	.02
		5 or more	.01	1.01		-.07	.93		-.20	.82	.00	-.05	.95		-.11	.90	.02
Referrals Since Exit	None (0)	1 to 2	-.18	.84	<.0001	-.15	.86	<.0001	-.05	.95		-.15	.86	<.0001	-.05	.95	
		3 or more	-.31	.73	<.0001	-.22	.80	<.0001	-.12	.89	.04	-.22	.80	<.0001	-.08	.92	

Table A8 Continued: Math Multivariate Analyses, Foster Youth who Exited Prior to High School

		High School Completion			Community College Enrollment			Community College Persistence			Post-Secondary Enrollment			Post-Secondary Persistence			
Sample Size		7,948			7,948			3,228			7,948			3,408			
Variable	Reference Group		Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value
CST	Not Proficient	Proficient	.23	1.26	<.0001	-.02	.98		-.04	.96		.09	1.10	.02	.03	1.03	
A-G Course	Not Successful	Successful	.51	1.67	<.0001	.08	1.09	.01	.07	1.07	.03	.11	1.12	.00	.10	1.10	.05
High School	No Completion	Completed				.71	2.04	<.0001	.15	1.16	<.0001	.74	2.10	<.0001	.36	1.43	<.0001
Basic Skills Class	Not Enrolled	Enrolled							.26	1.30	.00				.18	1.20	.00
Financial Aid	No	Yes							.13	1.14	.00						
Credit Accrual	Less than 15 units	15 units or more							.78	2.12	<.0001						
CC Entrance Timing	Right after 12 th grade	Delayed 1 year or more HS credits + post							-.76	.47	<.0001						
Ps status	No HS credit classes	HS credit classes													.31	1.37	<.0001
Intercept			-1.10 (.05)			-1.20 (.06)			-.94 (.09)			-1.21 (.06)			-.96 (.09)		

*small sample size

Table A9: Math Multivariate Analyses, Foster Youth In-Care During High School

		High School Completion			Community College Enrollment			Community College Persistence			Post-Secondary Enrollment			Post-Secondary Persistence			
Sample Size		9,556			9,556			4,000			9,556			4,213			
Variable	Reference Group		Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value
Grade	9	10	.18	1.20	<.0001	.02	1.02		.13	1.14	.00	.02	1.02		.09	1.09	
		11	.42	1.52	<.0001	-.04	.96		.11	1.12	.04	-.03	.97		.05	1.05	
Gender	Female	Male	-.06	.94	.01	-.06	.94	.02	.06	1.06		-.07	.93	.00	.03	1.03	
	Ethnicity	White/Asian	Black	.02	1.02		.24	1.27	<.0001	.05	1.05		.24	1.27	<.0001	.04	1.04
		Hispanic	-.04	.96		.03	1.03		.00	1.00		-.01	.99		-.04	.96	
		Native American	-.38	.68		.18	1.20		.22	1.25		.14	1.15		.31	1.36	
		Other*	.12	1.13		.09	1.09		.15	1.16		.16	1.17		.40	1.49	.04
NSLP	No	Yes	.09	1.09	.00	-.07	.93	.00	-.02	.98	.00	-.06	.95	.01	-.04	.96	
	ELL	No	Yes	.14	1.15	<.0001	.13	1.14	.00	.05	1.05		.14	1.15	<.0001	.17	1.18
Disability		No	Yes	.00	1.00		-.13	.88	<.0001	-.08	.92		-.16	.85	<.0001	-.17	.84
	School Quality	Not Poor	Poor	-.19	.83	<.0001	-.02	.98		-.10	.90	.01	-.02	.98		-.15	.86
Removal Reason		Neglect	Physical Abuse	.07	1.07		.04	1.04		-.03	.97		.00	1.00		.00	1.00
	Sexual Abuse		.10	1.11	.04	.06	1.06		-.05	.95		.07	1.07		.06	1.06	
	Other		.05	1.05		.07	1.07		-.05	.95		.08	1.08	.01	-.02	.98	
Spells	1	2 to 3	.03	1.03		.00	1.00		.06	1.06		-.01	.99		.06	1.06	
		4 or more	.06	1.06		.05	1.05		.14	1.15		.01	1.01		.20	1.22	.03
Major Placement Type	Kin	Non-kin	.05	1.05		-.05	.95		.04	1.04		-.03	.97		.04	1.05	
		Group	-.27	.76	<.0001	-.01	.99		.07	1.07		.00	1.00		.05	1.05	
		Other	.04	1.04		-.14	.87	.00	.04	1.04		-.12	.88	.00	.07	1.07	
Placements	1 to 2	3 to 4	-.14	.87	<.0001	-.04	.96		-.05	.95		-.05	.95		-.04	.96	
		5 or more	-.37	.69	<.0001	-.07	.93		-.19	.83	.00	-.10	.90	.00	-.19	.83	.00
Length of Stay	Less than 1 year	1 to 2	.02	1.02		.06	1.06		-.22	.80	.00	.05	1.05		-.14	.87	
		2 to 3	.01	1.01		.15	1.16	.01	-.13	.88		.13	1.14	.01	-.12	.89	
		3 +	.14	1.15	.00	.15	1.16	.00	-.12	.89		.14	1.15	.00	-.07	.93	
Exit Type	Reunification	Adoption	.32	1.38	<.0001	.00	1.00		.05	1.05		.00	1.00		.08	1.08	
		L. Guardianship	.25	1.28	<.0001	-.01	.99		.00	1.00		.02	1.02		-.01	.99	
		Emancipation	.22	1.25	<.0001	.16	1.17	<.0001	.12	1.13	.02	.16	1.17	<.0001	.11	1.11	.04
		Other	-.50	.61	<.0001	-.03	.97		-.12	.87		-.04	.96		-.20	.82	
		No Exit Reason	-.13	.88		.03	1.03		.00	1.00		.01	1.01		.03	1.03	

Table A9 Continued: Math Multivariate Analyses, Foster Youth In-Care During High School

			High School Completion			Community College Enrollment			Community College Persistence			Post-Secondary Enrollment			Post-Secondary Persistence		
	Sample Size		9,556			9,556			4,000			9,556			4,213		
Variable	Reference Group		Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value
CST	Not Proficient	Proficient	.22.	1.25	<.0001	.03	1.03		.01	1.01		.11	1.11	.00	.11	1.11	
A–G course	Not Successful	Successful	.56	1.75	<.0001	.11	1.11	.00	.04	1.04	.00	.14	1.15	<.0001	.07	1.07	
High School	No Completion	Completed				.65	1.92	<.0001	.24	1.27	<.0001	.69	1.99	<.0001	.38	1.46	<.0001
Basic Skills Class	Not Enrolled	Enrolled							.29	1.34	<.0001				.26	1.30	<.0001
Financial Aid	No	Yes							.10	1.10	.01						
Credit Accrual	Less than 15 units	15 units or more							.80	2.23	<.0001						
CC Entrance Timing	Right after 12 th grade	Delayed 1 year or more HS credits + post							-.76	.44	<.0001						
Ps status	No HS credit classes	HS credit classes							.22	1.22	<.0001				.39	1.47	<.0001
Intercept			-1.40 (.05)			-1.44 (.06)			-1.18 (.08)			-1.42 (.05)			-1.21 (.08)		

*small sample size

Table A10: Math Multivariate Analyses, Foster Youth and Matched Comparison

		High School Completion			Community College Enrollment			Community College Persistence			Post-Secondary Enrollment			Post-Secondary Persistence			
Sample Size		7,238			7,238			3,237			7,238			3,431			
Variable	Reference Group		Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value
Foster Youth	No	Yes	-.10	.90	<.0001	.01	1.01		-.08	.92	.04	.01	1.01		-.06	.94	
Grade	9	10 11	.17 .41	1.19 1.51	<.0001 <.0001	.11 .06	1.12 1.06	.00	.08 .00	1.08 1.00		.10 .07	1.11 1.07	.01	.03 -.06	1.03 .94	
Gender	Female	Male	-.17	.85	<.0001	-.08	.92	.01	.03	1.03		-.09	.97	.00	-.01	.99	
Ethnicity	White/Asian	Black	-.04	.96		.06	1.06		.02	1.02		.05	1.05		-.03	.97	
		Hispanic	-.08	.92	.02	-.05	.95		-.05	.95		-.06	.94		-.04	.96	
		Native American	.13	1.14		-.11	.90		-.30	.70		-.16	.85		-.55	.58	
		Other*		----			---			---			--			--	
NSLP	No	Yes	.04	1.04		-.05	.95		-.12	.89	.00	-.04	.96		-.13	.89	.01
ELL	No	Yes	.17	1.18	<.0001	.08	1.08		.06	1.06		.10	1.11	.01	.14	1.15	.02
Disability	No	Yes	-.05	.96		-.11	.90	.02	-.10	.90		-.15	.86	.00	-.16	.85	.04
School Quality	Not Poor	Poor	-.21	.81	<.0001	-.03	.97		-.04	.96		-.05	.95		-.10	.91	.02
CST	Not Proficient	Proficient	.15	1.16	.00	-.01	.99		.24	1.27	.00	.04	1.04		.18	1.19	.01
A–G course	Not Successful	Successful	.54	1.72	<.0001	.05	1.05		.00	1.00		.09	1.09	.01	.04	1.04	
High School	No Completion	Completed				.66	1.94	<.0001	.27	1.31	<.0001	.69	1.99	<.0001	.44	1.56	<.0001
Basic Skills Class	Not Enrolled	Enrolled							.23	1.26	.01				.23	1.25	<.0001
Financial Aid	No	Yes							.07	1.07							
Credit Accrual	Less than 15 units	15 units or more							.66	2.03	<.0001						
CC Entrance Timing	Right after 12 th grade	Delayed 1 year or more HS credits + post							-.83	.17	<.0001						
Ps status	No HS credit classes	HS credit classes							.18	1.18	.01				.37	1.41	<.0001
Intercept			-1.45 (.06)			-1.39 (.06)			-1.19 (.09)			-1.38 (.05)			-1.31 (.08)		

*small sample size

Table A11: English Multivariate Analyses, Foster Youth and Matched Comparison

		High School Completion			Community College Enrollment			Community College Persistence			Post-Secondary Enrollment			Post-Secondary Persistence		
Sample Size		8,120			8,120			3,622			8,120			3,820		
Variable	Reference Group	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value	Coef.	RR	P-value
Foster Youth	No Yes	-.18	.83	<.0001	.03	1.04		-.09	.92	.02	.03	1.04		-.13	.88	.00
Grade	9 10 11	.09 .33	1.10 1.30	.00 <.0001	.00 .01	1.00 1.01		.07 .10			.00 -.01	1.00 .99		.04 .03	1.04 1.03	
Gender	Female Male	-.06	.88	.01	.00	1.00		.04	1.04		.00	1.00		.02	1.02	
Ethnicity	White/Asian Black Hispanic Native American Other*	.02 -.04 .01	1.02 .96 1.01		.14 -.04 -.08	1.15 .96 .92	<.0001	.06 -.03 .16	1.06 .97 1.17		.15 -.05 -.16	1.16 .95 .85	<.0001	.02 -.05 .12	1.02 .95 1.13	
NSLP	No Yes	.04	1.04		-.07	.93	.01	-.05	.95		-.07	.93	.01	-.15	.92	.02
ELL	No Yes	.17	1.08	<.0001	.11	1.12	.01	.04	1.05		.13	1.14	.00	.17	1.18	.00
Disability	No Yes	.06	1.06		-.11	.90	.01	-.09	.91		-.14	.87	.00	-.15	.86	.02
School Quality	Not Poor Poor	-.23	.79	<.0001	.00	1.00		-.06	.94		-.02	.98		-.12	.88	.00
CST	Not Proficient Proficient	.30	1.34	<.0001	.04	1.04		.12	1.13	.01	.14	1.15	<.0001	.19	1.20	<.0001
A-G course	Not Successful Successful	.90	2.45	<.0001	.19	1.20	<.0001	.07	1.08		.21	1.23	<.0001	.16	1.18	.01
High School	No Completion Completed				.68	1.96	<.0001	.24	1.27	<.0001	.71	2.04	<.0001	.39	1.48	<.0001
Basic Skills Class	Not Enrolled Enrolled							.35	1.42	<.0001				.44	1.56	<.0001
Financial Aid	No Yes							.03	1.03							
Credit Accrual	Less than 15 units 15 units or more							.65	1.92	<.0001						
CC Entrance Timing	Right after 12 th grade Delayed 1 year or more HS credits + post							-.83 .10	.44 1.11	<.0001 .05						
Ps status	No HS credit classes HS credit classes													.27	1.31	<.0001
Intercept		-1.45 (.06)			-1.39 (.06)			-1.19 (.09)			-1.39 (.05)			-1.31 (.08)		

*small sample size