

Children's Scholarship Fund
Scholarship Recipients and College Going



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Introduction

Attending quality schools has long-run impacts on students' lives. A 2011 study by Chetty et al finds that students with top teachers are less likely to become pregnant as teenagers, more likely to enroll in college, and likely to earn more money as adults. Other studies such as Dynarski et al (2014) similarly find that schooling quality has long-run impacts on college completion and attainment.

Children's Scholarship Fund (CSF) provides scholarships to low-income families with students in grades K-8. The scholarships allow families to choose the private school that best meets their children's needs. For many students, private schools offer a better option than public school. In many ways, high-income students have significant school choice as their parents can move to other public (through residential choice) or private schools. CSF levels the playing field by allowing greater educational mobility among low-income families. CSF's underlying theory of change is that parental choice leads to improved access to a high quality education, which could improve outcomes in life, including but not limited to college attendance.

Our study focuses on college going and college persistence for CSF alumni. Alumni in this study received scholarships between 1999 and 2010. Scholarships varied in length depending on when students applied and whether the family retained the scholarship through the end of eighth grade. The remainder of this report is divided into three sections. Section I provides more details on the data and methodology of this study. Section II shows college attendance rates from 2003-2015. Results are provided aggregated as well as separately for New York City and Omaha. In Section III, we consider some extensions to our basic analysis. We conclude and provide summary conclusions across the areas of inquiry in Section IV.

I. Data and Methods

Our data were provided by CSF headquarters. They were able to provide us with 10,180 student records. Our analysis sample was a subset of these students. First, we had to drop students who were missing birthdays. Birthdays are required by the National Student Clearinghouse (NSC) to track college enrollment. We had no way of tracking students with missing birthdates. By excluding these students, our analysis sample fell to 8,590 students who received a CSF scholarship between 1999 and 2010 in either NYC or Omaha. This includes 6,982 students from NYC and 1,608 students from Omaha.

Given that our focus is on college enrollment, we restrict our data to students who should have graduated from high school by summer 2015. We do not observe year in school perfectly, so we predict this using students' birthdates. In particular, we eliminate students who were born before 1985 or were born after November 1, 1997.¹ This revised sample gives us 5,211 students with 3,613 students from New York City and 1,598 students from Omaha.

We submitted these students' names and birthdates to the National Student Clearinghouse (NSC). The NSC tracks college enrollments at 94 percent of all colleges. The gaps in coverage primarily occur in small vocational schools. Part of this may arise because for-profit colleges are less likely than public institutions to report to the NSC. Given how small the for-profit college attendance rate is in our data, we focus our discussion on non-profit public and private schools versus any for-profit private school attendance. The NSC reports college degrees when they have occurred, and it also tracks periods of enrollment at different universities. We report statistics based on this report in Section II of the paper.

¹ To show the reasonableness of this assumption, college attendance rates are around 64 percent for students born in 1997. Rates are around 9.8 percent for students born in 1998. While some of these students may have graduated early, most of these enrollments are likely students who are concurrently enrolled in high school and college. We use the Nov 1 cutoff as all but one state (Connecticut) has a cutoff prior to this date. In New York, the local educational agency can override any cutoff. In Omaha, the date cutoff is on July 31. Our results do not change when we extend the deadline to be December 31st or when we restrict the deadline to be August 1. Our results do change dramatically if we include students born in the next calendar year.

We also rely on some survey data from CSF. CSF conducted surveys of high school seniors in the 2012 to 2015 graduating classes. These graduating student surveys were conducted among students who held the scholarship until eighth grade. While this presents some limits in knowing the impacts on students who did not keep the scholarship through eighth grade, it does provide additional data that can be used both to validate the analysis completed with the other data and to shed light on other aspects of students' careers.

II. College Enrollment Rates

Our first analysis aims to understand the experiences of CSF students in college. Using those cohorts old enough to have graduated on time, we track students' college enrollments using data from the National Student Clearinghouse (NSC).

We start by characterizing the likelihood that students ever attended college. This appears in Table 1. For each graduation year (defined as turning 18 between November of the prior year through October of the next year), we show the likelihood that students ever attended college. The construction of our variable surely makes it so that we overstate the true attendance in that students may have been held back or otherwise delayed in their high school graduation.

We find the college attendance rates range from 52 percent to 72 percent. The overall average is 68.4 percent for CSF alumni in our sample. The numbers are cumulative so they include enrollments at anytime since graduation. Some of the variance in college attendance rates arises from the fact that earlier cohorts have had more time to attend college than later cohorts. On the flip side, continued policies promoting college attendance may have improved college attendance in later cohorts.

We further breakdown enrollment by four-year or two-year institution. We observe higher enrollments at four-year institutions. The enrollment rates between the two types of institutions are not mutually exclusive, meaning we could observe a student enrolling at both a four-year and a two-

year institution. For example, students may have transferred from a two-year to a four-year college. Moreover, many students who enroll in four-year colleges often take a concurrent course at a two-year college. The NSC data typically do not let us adjudicate which campus is the primary campus of attendance. The average enrollment rate is 50 percent at four-year institutions and 35 percent at two-year institutions.

The college going rates are similar to the overall population. According to the Current Population Survey, college going rates hover between 60 and 70 percent. The peak was 70.1 percent in 2009 and in the most recent measured year (2013), the rate was 65.9 percent (see Table 302.20 of 2014 Digest of Educational Statistics²). CSF graduates were either at the national averages or above them. In the most recent cohort, the average was nearly identical. Given that the federal number includes all students regardless of income or geographic locale, the rate is impressive. Ex-ante, one might have reasonably guessed that CSF's rates might have lagged the national average given the characteristics of students who applied for CSF's scholarships. This is not the case. CSF's attendance rates do not lag.

Table 1. College Attendance Rates by High School Graduation Year³

HS Graduation Year	Ever Enrolled in College	Ever Enrolled in 4-Year	Ever Enrolled in 2-Year
2003	61.5%	46.2%	38.5%
2004	51.6%	45.3%	26.6%
2005	61.6%	50.4%	35.2%
2006	62.6%	49.0%	28.6%
2007	58.4%	45.5%	32.5%
2008	68.6%	53.8%	43.6%
2009	73.2%	53.6%	47.7%
2010	66.1%	49.1%	42.0%
2011	68.8%	46.6%	44.2%
2012	71.1%	51.3%	41.8%
2013	72.1%	49.9%	37.7%
2014	70.4%	50.4%	29.0%
2015	65.6%	50.4%	20.4%
Overall	68.4%	50.2%	35.3%

² See http://nces.ed.gov/programs/digest/d14/tables/dt14_302.20.asp. Accessed in February 2016.

³ Note that the columns do not add up in that some students enrolled in both 4-year and 2-year colleges at some point. Those students would be counted in both 4-year and 2-year enrollment statistics.

We next look at the New York and Omaha samples separately. Table 2 presents college attendance rates for CSF alumni in New York. We find an average of 64 percent of students who graduated between 2007 and 2015 attended college at some point. Forty-seven percent of students enrolled at a four-year and 27 percent enrolled at a two-year since high school graduation.

Table 2. College Attendance Rates by High School Graduation Year, New York Sample

HS Graduation Year	Ever Enrolled in College	Ever Enrolled in 4-Year	Ever Enrolled in 2-Year
2003	61.5%	46.2%	38.5%
2004	51.6%	45.3%	26.6%
2005	62.1%	50.8%	35.5%
2006	62.1%	48.3%	28.3%
2007	55.7%	44.9%	28.4%
2008	61.8%	50.9%	31.2%
2009	61.1%	46.1%	31.1%
2010	59.1%	44.2%	27.6%
2011	61.9%	39.1%	33.5%
2012	63.1%	45.2%	30.8%
2013	68.5%	46.8%	31.9%
2014	67.6%	48.6%	24.6%
2015	62.5%	47.3%	17.5%
Overall	63.5%	46.7%	27.2%

In Table 3, we observe only the Omaha sample. Our observed college attendance rates on whether students ever enrolled are higher in Omaha than New York. Looking at just the Omaha sample, we find an average of 80 percent of CSF alumni enrolling in college. Broken down by institution type, we see 58 percent of students enrolling in a four-year and 54 percent of students enrolling at a two-year. Again, since NSC does not let us judge which campus is the primary campus of enrollment, we observe a large number of students enrolling at both four-year and two-year institutions in Omaha during our period of analysis.

Table 3. College Attendance Rates by High School Graduation Year, Omaha Sample

HS Graduation Year	Ever Enrolled in College	Ever Enrolled in 4-Year	Ever Enrolled in 2-Year
2007	72.7%	48.5%	54.5%
2008	77.7%	57.7%	60.0%
2009	85.1%	61.0%	64.1%
2010	72.3%	53.5%	55.0%
2011	76.0%	54.3%	55.3%
2012	85.0%	62.1%	61.3%
2013	79.9%	56.7%	50.4%
2014	80.9%	57.2%	45.9%
2015	78.8%	63.5%	32.7%
Overall	79.5%	58.0%	53.6%

We next look at enrollment rates immediately after high school graduation. As we discussed above, we do not observe graduation years. We assume that high school seniors include anyone who turns 18 between November in the year prior to graduation and October in the same year of graduation. Our assumption allows us to focus accurately on students who might be graduating on-time. Given that many students may have been held back at some point in their educational career, we likely will understate the true college enrollment rate immediately after high school. Table 4 provides the aggregated sample while Tables 5 and 6 look at New York and Omaha respectively.

In the aggregated sample we find that 52 percent of alumni who should have graduated high school between 2007 and 2015 enrolled in college immediately after graduation. Thirty-three percent of these students enrolled at four-year institutions while 19 percent enrolled at a two-year institution. These rates are significantly different from the “ever enrolled” results we showed in Tables 1-3. The results could vary for multiple reasons. First, we have made an assumption that students graduate near age 18. If grade repetition occurred, then we would not observe students enrolled immediately after our assumed on-time graduation date. Additionally, many students delay college for at least one year after high school. One study by MPR Associates claims that one third of new students in college have

delayed enrollment by at least a year.⁴ Tables 7-9 suggest that these delay rates are around 11 percent. Finally, in recent years, there have been concerted efforts to decrease grade repetition and to reduce delayed enrollment. This might explain the increase over time observed in Table 4.

Table 4. College Attendance Rates Immediately after Graduation by High School Graduation Year

HS Graduation Year	Enrolled in College	Enrolled in 4-Year	Enrolled in 2-Year
2007	39.2%	26.3%	12.9%
2008	44.6%	27.4%	17.2%
2009	49.6%	27.6%	22.0%
2010	46.2%	25.6%	20.6%
2011	46.2%	25.4%	20.9%
2012	51.3%	29.9%	21.3%
2013	52.7%	33.2%	19.5%
2014	56.7%	38.8%	17.9%
2015	65.6%	46.4%	19.2%
Overall	51.7%	33.1%	18.6%

One potential comparison group comes from the study of educational vouchers conducted by Paul Peterson and Matthew Chingos.⁵ They investigated a similar scholarship program which targeted students entering private school in 1998. The three-year scholarship was similar in that it offered partial tuition scholarships to students in New York so that they could attend private school. The target sample were a set of students who would have entered first to fifth grade in 1998. These students would have graduated between 2006 and 2010. Chingos and Peterson find that college enrollment rates in the control group were around 37 percent after two years and 42 percent after three years. These rates are also similar to those reported by Chetty et al (2011) for a large, suburban school district over the same period. The rates reported in Table 5 represent the attendance rates immediately after high school graduation, and already they are quite similar if not better than the rates found by Chingos and

⁴ See Horn, Cataldi and Sikora (2005). Retrieved at <http://nces.ed.gov/das/epubs/2005152/> in February 2016.
⁵ See http://www.brookings.edu/~media/Research/Files/Papers/2012/8/23-school-vouchers-harvard-chingos/Impacts_of_School_Vouchers_FINAL.pdf?la=en.

Peterson. The rates in Tables 1 to 3 were much more similar in terms of the time lag, and these rates were much more favorable.⁶

Table 5. College Attendance Rates Immediately after Graduation by High School Graduation Year, New York

HS Graduation Year	Enrolled in College	Enrolled in 4-Year	Enrolled in 2-Year
2007	39.2%	30.7%	8.5%
2008	36.4%	27.7%	8.7%
2009	36.5%	28.6%	7.8%
2010	38.1%	27.1%	11.0%
2011	36.9%	24.3%	12.6%
2012	40.9%	28.3%	12.6%
2013	47.4%	33.5%	13.9%
2014	53.9%	39.5%	14.4%
2015	62.5%	45.7%	16.7%
Overall	46.8%	34.1%	12.7%

In Omaha, we observe an average of 63 percent of CSF alumni enrolling in college immediately after graduation (Table 6). Enrollments are split evenly between four-year and two-year institutions with about 31 percent attending each type of institution. While we could not find college enrollment figures specific to Omaha during this time, as a comparison we can look at Nebraska rates. A 2015 report by The Coordinating Commission for Postsecondary Education finds that 70.8 percent of 2012–2013 Nebraska public high school graduates continued on to college, which was up from 69 percent in 2007-2008 public high school graduates.⁷ The rates in Table 6 are quite similar if not better than Nebraska overall.

⁶ Another possible comparison is the rate achieved in high schools with college access programs. On the one hand, these college access programs target schools with large populations of disadvantaged students. On the other hand, these programs focus on trying to raise the college enrollment rates, and hence they may have higher rates than expected. One program with a strong presence in New York is the College Advising Corps. The average college going rate in their schools is 54 percent in the 2014 school year. This is identical to the rate reported in Table 5 in the analogous year.

⁷ See http://www.nebraskalegislature.gov/FloorDocs/104/PDF/Agencies/Coordinating_Commission_for_Postsecondary_Education/474_20150313-111753.pdf.

Table 6. College Attendance Rates Immediately after Graduation by High School Graduation Year, Omaha

HS Graduation Year	Enrolled in College	Enrolled in 4-Year	Enrolled in 2-Year
2008	55.4%	26.9%	28.5%
2009	62.6%	26.7%	35.9%
2010	53.5%	24.3%	29.2%
2011	55.8%	26.4%	29.3%
2012	69.6%	32.8%	36.8%
2013	64.3%	32.6%	31.7%
2014	67.5%	36.1%	31.4%
2015	78.8%	49.4%	29.5%
Overall	62.9%	31.0%	31.9%

Tables 7-9 provide college attendance rates one year after high school graduation for each graduating class. These are defined as students who did not attend college immediately after graduating high school but attended shortly thereafter. These students either delayed enrollment or had grade repetition that led them to graduate a year later. For the aggregate sample we observe an average of 12 percent of students enrolling a year after high school graduation (Table 7). Rates of attendance are split between four-year and two-year institutions, approximately 6 percent at each.

Table 7. Delayed Entry: College Attendance Rates One Year after Graduation Conditional on Not Attending Immediately (by High School Graduation Year)

HS Graduation Year	Enrolled in College	Enrolled in 4-Year	Enrolled in 2-Year
2007	11.5%	4.8%	6.7%
2008	17.8%	8.9%	8.9%
2009	13.4%	7.2%	6.2%
2010	12.0%	4.4%	7.6%
2011	16.6%	7.6%	9.0%
2012	13.5%	6.0%	7.4%
2013	15.8%	7.2%	8.7%
2014	13.6%	6.6%	7.1%
Overall	11.9%	5.7%	6.2%

Looking at the New York sample in Table 8 we find an average of 11 percent of CSF alumni enrolling one year after graduation. We observe variation in the type of institution students enrolled in

from cohort to cohort. For example, for the 2008 graduating class, we see a 17 percent enrollment rate one year after graduation with 10 percent of enrollments at a four-year and 7 percent at a two-year. For the 2009 graduating class, enrollments were also higher at four-years (7 percent versus 3 percent) but the overall rate falls below the average at 9 percent. However, for all other cohorts, enrollment rates one year after graduation are higher at two-year institutions.

Table 8. Delayed Enrollment Rates by High School Graduation Year, New York

HS Graduation Year	Enrolled in College	Enrolled in 4-Year	Enrolled in 2-Year
2007	7.4%	1.7%	5.7%
2008	17.3%	10.4%	6.9%
2009	9.4%	6.8%	2.6%
2010	12.7%	5.5%	7.2%
2011	15.4%	5.6%	9.8%
2012	14.4%	6.1%	8.3%
2013	16.2%	7.6%	8.6%
2014	13.7%	6.4%	7.3%
Overall	11.1%	5.4%	5.7%

Enrollment rates for Omaha alumni one year after graduation are presented in Table 9. We observe an average of 14 percent of students enrolling one year after graduation, with 7 percent enrolling in two-years and 6 percent enrolling in four-years. The one anomaly in the 2007 graduating cohort is the statistic that 33.3 percent of students delayed enrollment. This number is much higher than in any of the other cohorts. We attribute this to the small sample in the 2007 high school graduating class of CSF alumni in Omaha.

Table 9. Delayed Enrollment by High School Graduation Year, Omaha

HS Graduation Year	Enrolled in College	Enrolled in 4-Year	Enrolled in 2-Year
2007	33.3%	21.2%	12.1%
2008	18.5%	6.9%	11.5%
2009	17.4%	7.7%	9.7%
2010	11.4%	3.5%	7.9%
2011	17.8%	9.6%	8.2%
2012	11.9%	5.9%	5.9%
2013	15.2%	6.3%	8.9%
2014	13.4%	7.2%	6.2%
Overall	13.7%	6.3%	7.4%

Tables 10-12 provide analysis of attendance by institution type, full-time attendance and graduation rates. During this period, a slight majority of CSF alumni started at a public institution with the exception of the graduating classes of 2007 and 2015. Overall, 52 percent of alumni started in a public institution and 37 percent started full-time. When looking at the average rate of degree completion, we focus on alumni who should have graduated between 2007 and 2011 which allows at least four years for degree completion.

Overall, we find 28 percent of alumni who should have graduated from high school between 2007 and 2011 obtained a degree by 2015. While we include graduation rates by cohort for the later graduating classes, the decline in graduation rates beginning in 2010 is expected given that a majority of students are not starting full-time and would take more than four years to complete a four-year degree. The graduation rates observed from 2012-2015 account for two-year certificates and may capture higher degree completions if students were concurrently enrolled while in high school or had AP credits beginning college. We note that the graduation rate reflects graduation from any institution. The rate reported in Table 10 is also unconditional in that it includes students who never enrolled in college. Conditional on initial attendance in college, the graduation rates range are much higher. In the last column of Table 10, graduation rates are over 58 percent for the 2007 graduating cohort. Overall, the graduation rate is over 40 percent for the graduating classes between 2007 and 2011. While not shown

in the table, 56.6 percent of students who started at private non-profit colleges, 40.1 percent of students who started in public colleges, and 25.0 percent of students who started in for-profit colleges graduated.⁸

There is no exact benchmark for the graduation rates by cohort. The most comparable rate is that published by the Department of Education. They publish national graduation rates by entering cohort allowing for 150 percent of the normal allotment of time for the degree (e.g. finishing a four-year degree within 6 years). The only cohort for which they have published data that coincides with our sample is the 2007 cohort. According to the US Department of Education, 39.4 percent of students entering 4-year colleges were able to finish college within six years. These students were initially full-time students.⁹ For students entering 2-year colleges, 29.8 percent of students were able to complete a degree within six years. The rate in Table 10, conditional on ever enrolling in college, is higher than the national rates; however, the national rates are conditional on attending a specific sector and in full-time attendance. If we focus on full-time attendees who started in a 4-year college after graduating from high school in 2007, then the graduation rate rises to 72.5 percent. For similar students starting at 2-year colleges, the graduation rate is 47.3 percent. These rates are considerably higher among CSF students than in the national sample.

⁸ Just 44 students who graduated from high school between 2007 and 2011 attended for-profit colleges.

⁹ See https://nces.ed.gov/programs/digest/d14/tables/dt14_326.10.asp.

Table 10. Rate of Public/Private Full-time Attendance, and Graduation by High School Graduation Year

HS Graduation Year	Started in Public	Started in Private (Non Profit)	Started Full-time	Graduated	Graduated (Cond'l on Ever Enrolling)
2007	45.0%	21.0%	33.5%	34.0%	58.2%
2008	53.5%	19.6%	36.0%	35.6%	51.9%
2009	57.5%	18.4%	38.4%	32.7%	44.7%
2010	56.1%	14.2%	33.2%	25.8%	39.1%
2011	56.0%	15.7%	35.0%	18.9%	27.5%
2012	55.7%	20.0%	33.1%	5.6%	7.9%
2013	53.7%	23.4%	38.1%	3.1%	4.3%
2014	52.6%	22.7%	40.6%	0.2%	0.3%
2015	46.4%	27.5%	37.0%	0.1%	0.2%
Overall	51.9%	21.5%	36.8%	--	--
HS Grad Year 2007-2011	--	--	--	28.3%	42.5%

Tables 11 and 12 look at the rate of attendance at public and private institutions, whether students started full-time and graduation rates by city. In New York (Table 11), 44 percent of alumni start at a public institution, 26 percent started at private non-profit college, and overall 38 percent started full-time. We find 25 percent of alumni who graduated from New York high schools from 2007-2011 have obtained some kind of degree at any type of college. Conditional on ever enrolling in college, 54 percent of the students who should have graduated from high school in 2007 and 48 percent of the students who should have graduated from high school in 2008 had completed a college degree. In Omaha, (Table 12) 70 percent of alumni started at a public institution, 12 percent started a private non-profit college, and overall 34 percent started full-time. Thirty-four percent of the 2007-2011 graduating classes from Omaha have obtained some type of college degree. Conditional on ever enrolling in college, the graduation rates are even higher in Omaha than they were in New York. About 75 percent of the students who should have graduated from high school in 2007 and 56 percent of the students who should have graduated from high school in 2008 had completed a college degree.

Table 11. Rate of Public/Private, Full-time Attendance, and Graduation by High School Graduation Year, New York

HS Graduation Year	Started in Public	Started in Private (Non Profit)	Started Full-time	Graduated	Graduated (Cond'l on Ever Enrolling)
2007	41.5%	23.7%	35.2%	30.1%	54.1%
2008	41.6%	27.4%	35.8%	29.5%	47.7%
2009	40.4%	26.7%	36.3%	23.3%	38.1%
2010	45.3%	20.8%	35.9%	19.9%	33.6%
2011	46.5%	18.9%	34.0%	16.3%	26.3%
2012	45.8%	23.8%	33.3%	4.9%	7.8%
2013	46.0%	28.7%	39.1%	2.2%	3.3%
2014	47.8%	25.4%	41.9%	0.3%	0.4%
2015	40.6%	31.7%	38.9%	0.0%	0.0%
Overall	43.9%	26.2%	37.9%	--	--
HS Grad Year 2007-2011	--	--	--	24.7%	41.1%

Table 12. Rate of Public/Private Full-time Attendance, and Graduation by High School Graduation Year, Omaha

HS Graduation Year	Started in Public	Started in Private (Non Profit)	Started Full-time	Graduated	Graduated (Cond'l on Ever Enrolling)
2007	63.6%	9.1%	24.2%	54.5%	75.0%
2008	69.2%	11.2%	36.2%	43.8%	56.4%
2009	74.4%	11.9%	40.5%	42.1%	49.4%
2010	65.8%	9.0%	30.7%	31.2%	43.2%
2011	65.9%	12.8%	36.1%	21.6%	28.5%
2012	73.1%	14.6%	32.8%	6.7%	7.9%
2013	70.5%	12.2%	36.2%	4.9%	6.1%
2014	71.1%	13.1%	35.6%	0.0%	0.0%
2015	71.2%	11.3%	28.8%	0.6%	0.8%
Overall	70.0%	12.2%	34.4%	--	--
Grad Year 2007-2011	--	--	--	34.4%	44.4%

In summary, the NSC college going numbers suggest different college going rates for Omaha and New York. While we see a higher college going rate of alumni in Omaha, the state has higher college attendance rates than New York City so there may be underlying differences between the two locales.

We find similarities in terms of students starting college full-time (around 35 percent) but a stark

difference in the type of institution where they first enroll. In New York, 44 percent of alumni are starting at a public college or university compared to 70 percent in Omaha. In Omaha, rates of degree completion for the cohorts we focus on (2007-2011) are 10 percent higher.

Table 13 provides a list of the most frequently attended colleges by city. We include those institutions where more than 1.75 percent of the sample enrolled. The list includes both two and four year institutions as well as private colleges and universities.

Table 13. Most frequently attended colleges by program (over 1.75% of CSF Cohort):

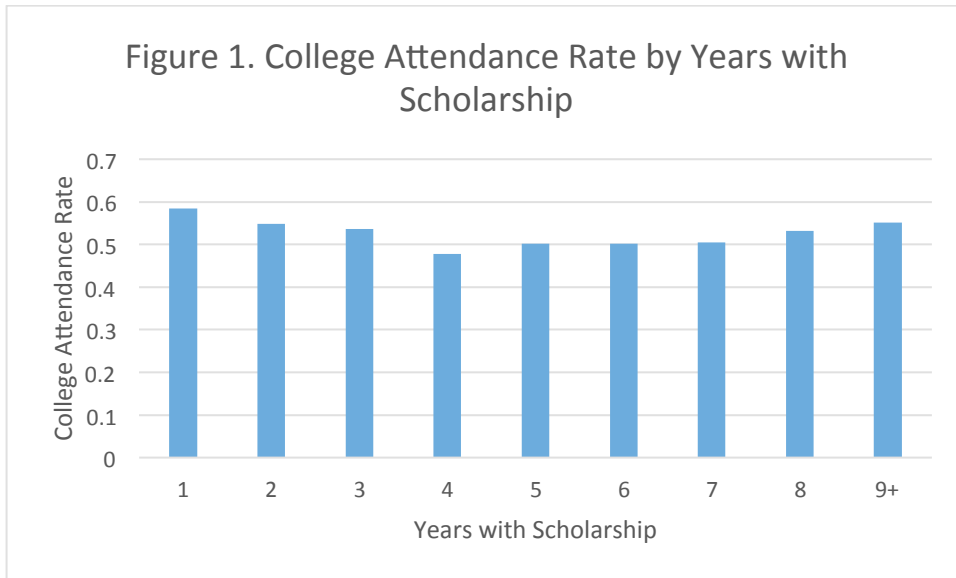
New York		Omaha	
CUNY Manhattan	N=212	U Nebraska Omaha	N= 274
CUNY Bronx	90	Metropolitan CC	270
CUNY New York Tech	90	Northeast CC	178
CUNY John Jay	79	Central CC- Columbus	110
CUNY Queensborough CC	73	U Nebraska Lincoln	93
CUNY LaGuardia CC	71	Wayne State	36
CUNY Lehman	63	Iowa Western CC	34
CUNY Kingsborough CC	57	Creighton Univ	23
CUNY Hostos	55		
St. John's Univ	49		
Mercy College	46		
SUNY – Albany	43		
CUNY Staten Island	42		
CUNY City College	41		

III. Extensions

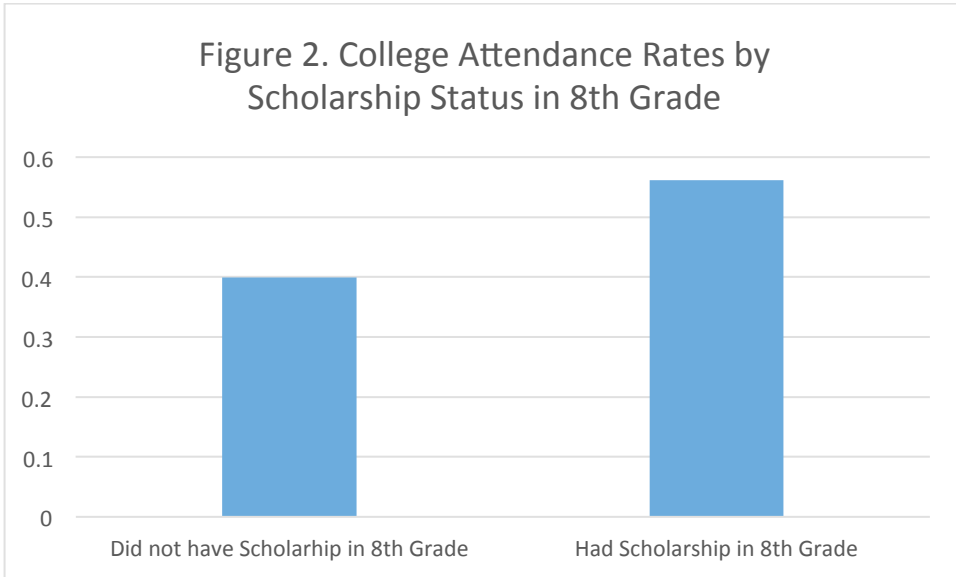
In this section, we consider four extensions of our basic analysis. The first focuses on the relationship between award length and college attendance. The second focuses on summer melt. The third focuses on on-time graduation. The final extension focuses on college retention into their second year.

Award Length

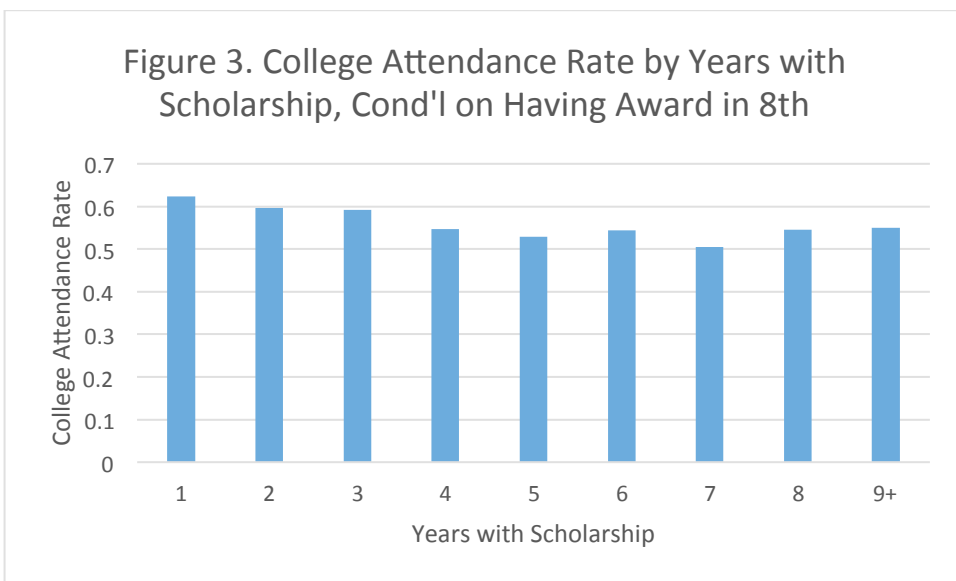
Finally, we consider a few additional analyses integrating data on the award length. In Figure 1, we plot college attendance (immediately after high school) by the number of years that a student had the scholarship. As can be seen, there is little relationship between the number of years students used the scholarship and the corresponding college attendance rate.



While there appears to be no systematic relationship, we do find relationships when we cut the data differently. Figure 2 plots college attendance rates by whether the student held a scholarship in eighth grade. Students who held a scholarship in eighth grade were 16 percentage points more likely to attend college than other students.



In Figure 3, we replicate Figure 1 but focus solely on those students who had a scholarship in eighth grade. As in Figure 1, we find little systematic relationship between how long a student held a scholarship and their ultimate college attendance.



The combination of Figures 1 to 3 suggest that the length of the scholarship is less important than the timing of the scholarship. Students who held the scholarship on the eve of entering high school were able to use the scholarship to improve their subsequent high school experience. This is true even for students who held the scholarship for only one or two years. There are a number of plausible

hypotheses for the specific mechanisms. Students who applied later in the educational process could systematically differ from other students; students who applied later could have been actively thinking about how the scholarship would help them enter high school; student who applied earlier might have lost some momentum. Regardless of the reason, it seems that the later students held the award, the better their eventual college outcomes.

Summer Melt

One phenomenon which has received substantial attention in recent years is summer melt. Summer melt refers to the situation where a student has a “firm” commitment to attend college at the end of high school but fails to show up in college. CSF conducts an annual senior survey among students. The survey aims to identify students’ college plans. We construct a measure of college attendance based on whether students identified a college that they would be attending in the coming year. Nationally, about 15 percent of students who graduate from high school “melt” before attending college.

To conduct the analysis, we restrict our sample to the set of students whose high school graduation time aligned perfectly across CSF and NSC data. This assures us that we are focusing on students who just graduated from high school. Of these students, 90 percent of the CSF survey respondents reported a specific college that they planned to attend in the fall. However, according to the NSC data, somewhere between 13 and 18 percent of these students did not show up in the fall semester. Many might have delayed enrollment as we discussed above; however, others may never have attended.

Table 14. Summer Melt Rates

HS Graduation	College Listed	Fall Enrollment	Implied Summer Melt
2013	94%	80%	14%
2014	92%	73%	18%
2015	89%	75%	13%

There is substantial symmetry between the rates of summer melt and the rates in the national data. The results are suggestive that many students need additional supports in order to help themselves improve their long-run outcomes.

On Time Graduation

Our next extension examines the age at which students graduated and its relationship to students' college attendance. Our definition of high school graduation focused squarely on students' birthdates. If students entered high school "on time" and never repeated a grade, then students should have graduated high school at the time we measured.

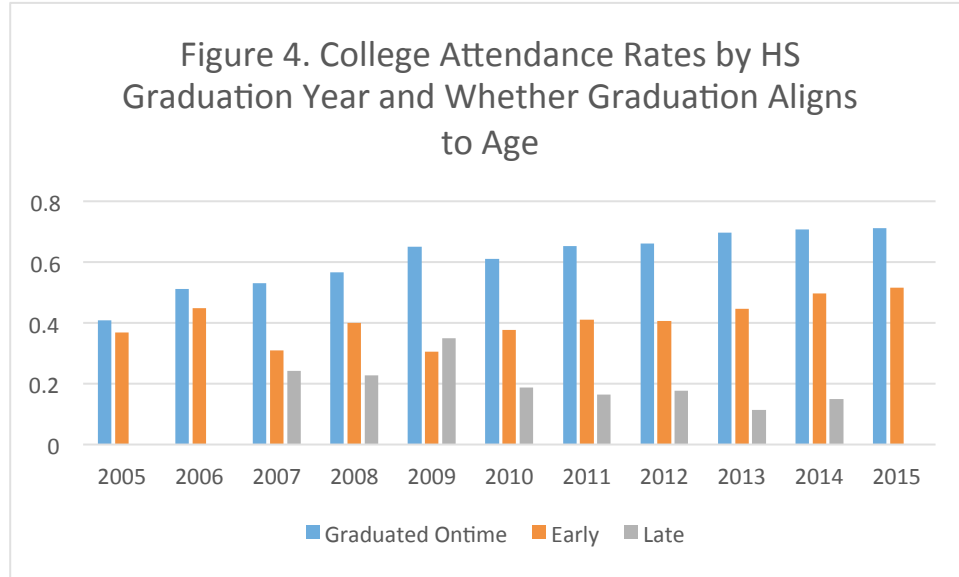
Using data from CSF, we can identify two other plausible graduation dates. The first piece of information came from alumni records. CSF records the last year and grade in which students held the scholarship. We can use these data to project the plausible graduation date of students. This information allows us to control for initial age of entry and early career repetitions. It is asymmetric in its quality as students who use the scholarship for a longer period will have more precise estimates of graduation. For example, a student who used the scholarship through third grade would not have subsequent contact with CSF. We would project a graduation date nine years after they quit using the scholarship. If grade repetitions occurred in those nine years, we would guess incorrectly. By contrast, a student who used the scholarship through eighth grade would be just four years from high school

graduation. Interestingly, our age-based measure has an 87 percent alignment with this projected measure. This suggests that our age-based measure has strong accuracy.

The second information that we can use in computing graduation rates involves using the CSF senior survey. We worry that students who intend to or have already dropped out may be underrepresented in these other data. Nonetheless, it provides an accurate account of students' graduation rates for those who made it to their senior year. We find an 82 percent alignment with our age-based measure suggesting that our age-based measure which is available for the entire sample has strong predictive value.

One exercise that is informative with these new variables is to estimate early and late high school graduation. Early graduation means that the student graduates earlier than expected given their age. Students either entered primary school early or skipped a grade. These students were likely among the youngest in their graduating class. Late graduation means that students graduate at a later age than might have been predicted. These late graduates either entered school later than expected or repeated a grade at some point. Figure 4 shows the graduation patterns for these students.

On-time graduates have much higher college attendance rates than others students. One might have expected late graduates to lag behind other students. At some point these students might have repeated a grade; however, in every graduation cohort, those graduating early have lower college attendance rates as well.



Retention in College

Our final extension focuses on students’ college retention. Most dropout behavior occurs in the first year of students’ collegiate careers. We find CSF attrition rates of 4-9 percent after students’ first semester. These rates hover between 23 and 7 percent after a full year across different graduating cohorts. Nationally, one year attrition rates are high in the 2006 cohort hovering around 29 percent.¹⁰ Hence, the strong numbers appearing in Table 15 suggest substantial retention among CSF alumni.

¹⁰ https://nces.ed.gov/programs/digest/d14/tables/dt14_326.30.asp/

Table 15. Retention in College by HS Graduation Year

HS Graduation Year	Attendance after First Semester	Attending Fall After their First Year
2004	94%	88%
2005	91%	77%
2006	91%	78%
2007	95%	93%
2008	93%	84%
2009	94%	84%
2010	92%	84%
2011	92%	81%
2012	96%	87%
2013	93%	85%
2014	92%	

IV. Conclusion and Synthesis

Our report suggests positive impacts of CSF scholarships on students. In examining college attendance rates, CSF scholarships help students in their eventual college attendance. CSF students attend college at a higher rate than many of their peers. Especially when compared to the rates in prior studies on similar populations, we find that CSF meets or exceeds the rates in those other studies. Given that CSF students generally come from disadvantaged backgrounds, this finding is especially strong and important. Our findings also highlight that CSF students are set on strong trajectories if they are using the scholarship in eighth grade, which allow them to succeed in high school and eventually in college attendance and graduation.

Our finding suggests the strong importance of students' middle school experiences. Students who finished eighth grade with the scholarship were more likely to attend college. While one might have expected the length over which students held the scholarship to matter, there were little differences in college attendance across students who held the scholarship for different lengths of time. What was the most salient was whether the student was using a scholarship at the end of eighth grade.

These students were able to use the scholarship to help them launch into a positive high school experience that culminated in higher rates of college attendance.

One potential implication is that there are opportunities to mentor students even after students leave the program. Literature on college access suggests that students respond to sustained mentorship and advising. In a CSF survey conducted in 2015, respondents claimed that support systems were a desirable and might help them. The potential for support systems is evident in the case of summer melt. CSF alumni experience summer melt at the same rate of other students and lack support for improving their likelihood of attendance. Prior studies have demonstrated that simple supports can reduce summer melt.

There are a number of innovative techniques for maintaining contact. Many of these techniques employ behavioral strategies that attempt to frame students' subsequent opportunities in ways which improve their abilities to take advantage. A natural extension in the case of CSF comes from "loss aversion." Individuals often consider what they have spent and invested when they make subsequent decisions. They are often reluctant to "lose" something that they have perceived that they have gained. Social psychologists often use this strategy to frame decisions in order to increase the likelihood that individuals make positive choices. In the case of CSF, parents and students have invested substantially in quality schools and have gained an advantage in terms of their education. As CSF reaches out to extend subsequent support to these families, emphasis on not losing the investment they made might be a sufficiently strong motivator to improve the likelihood that students and families continue to make positive educational choices throughout high school and into college.