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Five is 75: Student Success Perspectives, Status, & Highlights

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Five is 75:

Student Success Perspectives, Status, & Highlights

Five is 75: a 5% gain in the overall graduation rate means helping 75 additional students achieve their goals.

We examine traditionally underserved students because these students have been shown to be the least likely to be successful in national studies.

- Students of Color
- Low Income
- First Generation

Things to notice:

1. Strong improvement for students of color, particularly men of color
2. Men – white men, low income men, men of color, 1st generation men remain a trouble spot.
3. Low Income and 1st generation students have shown less improvement overall. This is true for both men and women.
4. There has been a decline in the success rate of women in recent years.

Discussion Starters:

1. Do I have any ideas or evidence that may help explain or provide context to these data?
2. Given these data, what would I want to know next?
3. What might I do different to help more students be successful?

Email your thoughts to
tkling@bridgew.edu

Data Presentation & Analysis by:

Thomas Kling, Department. of Physics & Faculty Fellow, Academic Affairs based on data from IR.





Five is 75: Broad Analysis of the Success Rates of First-time, Full-time Bridgewater Students

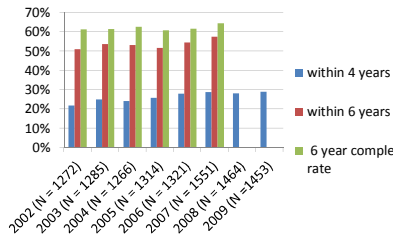
What does "Five is 75" mean?

Bridgewater's incoming first-time, full-time freshmen cohorts have included about 1500 students since 2007. A **5%** increase in graduation or retention rates means only **75** more students achieving success. While a 5% gain is big jump, it is achievable.

"Five is 75" reminds us that if each department aids 3 students or if every sixth faculty or staff member aids a single student, we can achieve a 5% increase in our graduation rate.

Overall Graduation & Retention Rates: All First-time, Full-time Freshmen

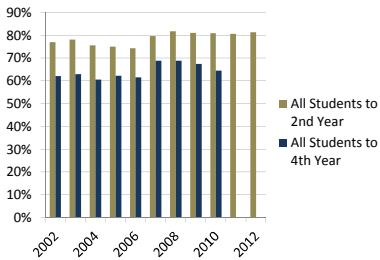
Graduation Rates



Percentages of first-time, full-time freshmen who graduate in 4 or 6 years from Bridgewater, or who complete a bachelor's degree at BSU or another school within 6 years.

The 6-year BSU graduation rate of all students has risen steadily to nearly 58%, while the 4-year rate has stabilized near 29%. The most successful schools in BSU's peer group graduate over 60% of full-time, first-time freshmen in 6 years and over 35% in 4 years.

Retention and Continuation Rates



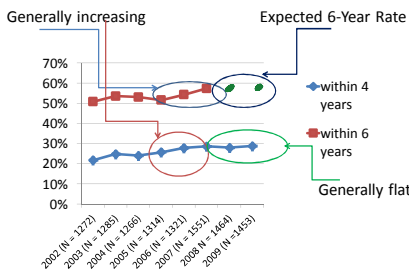
It is standard practice to look at 1st Year Retention Rates (which is the same as the % of students who continue to a 2nd year).

It is less standard to look at the % of students who continue to a 4th year. This data is not reported nationally, but it is useful for understanding Bridgewater.*

* Continuation to a 4th year of studies excludes students who have graduated in 3 years or who simply take the fall semester of the 4th year off.

The 1st Year Retention Rate at BSU has stabilized at approximately 80%, which is towards the top of the range of our peer group.

Projections for 6-Year Graduation Rates

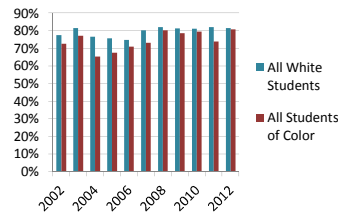


With a slight decrease in the rate of students continuing to a 4th year of studies and the flat 4 year graduation rate, we should expect 6-year rates to remain near, or slightly below, 60% for the next few years.

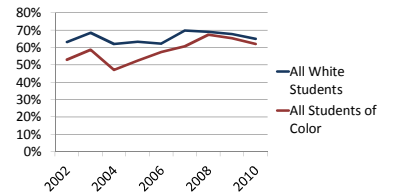
Five is 75: to raise our 6-year graduation rate above the 60% bar, where BSU would become a leader in its institutional classification, means adding 75 graduates.

Graduation & Retention Rates for Key Groups of First-time, Full-time Freshmen Students of Color

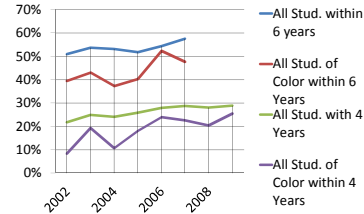
1st Year Retention



Continuation to 4th Year



4 & 6 Year Graduation Rates



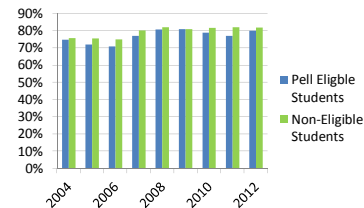
Because N values for students of color are small, we expect the annual variation in performance to be larger for students of color than white students.

Since 2008, the 1st year retention and continuation to 4th year rates for students of color and white students are very similar.

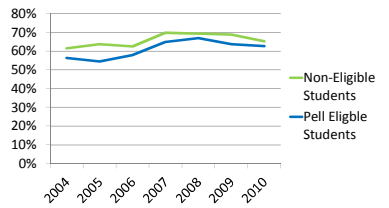
The gaps in the 4 & 6 year graduation rates continue to close.

Low Income Students

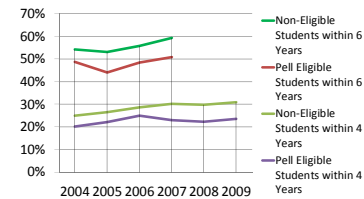
1st Year Retention



Continuation to 4th Year



4 & 6 Year Graduation Rates



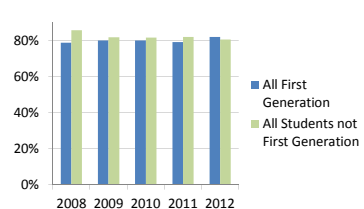
The gaps in 1st year retention and continuation to the 4th year for low income students remain consistent and are not improving since 2004.

The graduation gaps are wider than the continuation gaps, which implies that an accumulation of risk factors may be impacting the graduation rates of low income students.

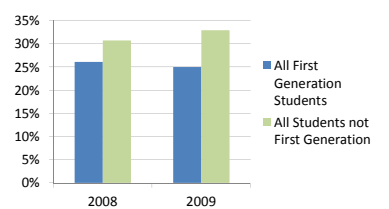
First Generation Students

(data since 2008)

1st Year Retention



4 Year Graduation



In the 2008 cohort, the gap in the 4 year graduation rate is about 5% but the gap in the 5 year graduation rate is 11%! This increase in the graduation gaps between the 4 and 5 year rates is repeated to a lesser degree for low income students.

Analysis by Thomas Kling (tkling@bridgew.edu) based on data from Institutional Research.

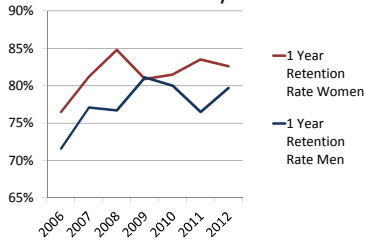


Five is 75: Missing Student Analysis to Study Men & Men of Color

Many schools have achievement gaps between male and female students, but Bridgewater has typically had larger gaps than other institutions in its peer group. In recent years, Bridgewater has been particularly concerned about the graduation and retention rates for men of color. In data presented in this poster, we show that there is strong evidence that the overall performance of men of color has improved significantly, but that gender differences persist in general. Part of our analysis is based on MiSA (mē-sa) or "Missing Student Analysis." The goal of MiSA is to identify when students are lost, which may ultimately indicate how to address student success issues. MiSA indicates that men are lost in about equal measures in their first few semesters and after beginning a fourth year of studies but before they graduate. We also note that in recent years, the gender gaps have closed a bit because women are doing worse.

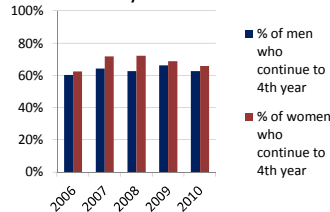
Overall Graduation & Retention Rates: All Men & All Women

1st Year Retention by Gender



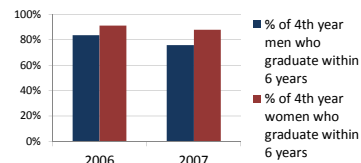
In most years, more women are retained first to second year than men.

Continuation to 4th Year by Gender*



More women begin a 4th year of studies than men. The gap is closing because women are doing worse.

Percentage of "Seniors" who Graduate in 6 Years by Gender



90% of 4th year women, but only 80% of 4th year men, graduate within 6 years.

We see two things:

1. Not enough men make it to a "senior" year.
2. For men who begin a 4th year of studies, not enough graduate.

* Continuation to a 4th year of studies excludes students who have graduated in 3 years or who simply take the fall semester of the 4th year off. Both effects make the "percentage who graduate" statistic look higher than it actually is. The effect is likely to be small.

The Basics of the Missing Student Analysis

- Assume two groups (say men and women) should persist and graduate at the same rate.
- From cohort size, and expected rate, compute an expected number of students who persist or graduate.
- Identify the number of missing students who did not persist or graduate.
- Divide the total number of missing graduates into students who did not persist to a 4th year, and those who did persist, but did not graduate.

Worked Example: 2007 Men and Women

63% of women graduated in 6 years, but only 49% of men

86 more men should have graduated: 14% of 616 FT-FT native men

$46 / 86 = 53\%$ of the problem } 25 men were **lost** before the 2nd year
21 more men were **lost** before the 4th year

88% of 4th year women graduated, but only 76% of 4th year males graduated. } $40 / 86 = 47\%$ of the problem
40 = 86 - 46 males who made it to a 4th year of studies did not graduate.

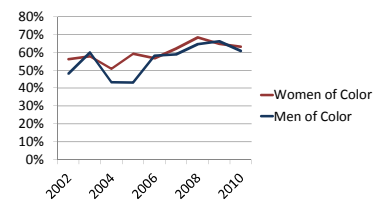
2006 Cohort: 39 more men should have graduated. There should have been 13 more men retained to the 4th year (33% of the problem), so 26 men who were retained to a 4th year of studies did not graduate (67% of the problem).

Examining Men & Women of Color

1st Year Retention

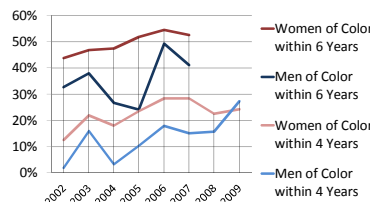


Continuation to 4th Year



Men of color have substantially narrowed, or eliminated, the gaps with women of color in key areas including 1st year retention, continuation to the 4th year, and 4 year graduation rates.

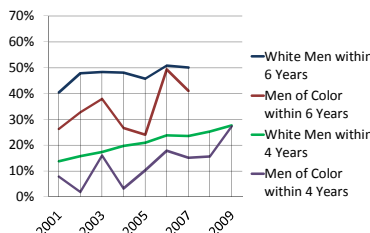
4 & 6 Year Graduation Rates



In the 2006 & 2007 cohorts, MiSA shows that the percentage of men who graduate after persisting to the 4th year lags women by 10 to 15 percentage points.

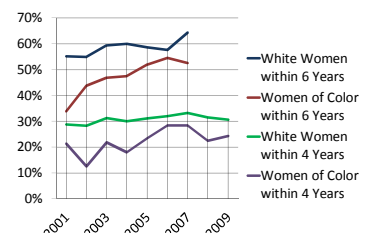
Since 2007, leading data for 6 year graduation rates of men of color strongly suggest that men of color do not lag women of color.

Men: Graduation Rates



Men of color have largely eliminated the achievement gap with white men.

Women: Graduation Rates



Women of color have narrowed the achievement gap with white women.

Men of color have higher 1st year retention than white men 2 of the last 3 years.

The performance of all students of color continues to improve, such that now white men and men & women of color appear to succeed at very similar levels.

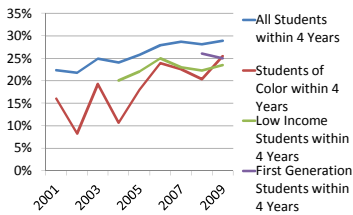


Five is 75: Low Income Students & First Generation Students

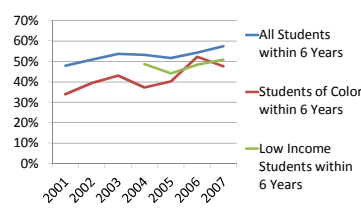
Unlike students of color, there have been only very minimal closings in the achievement gaps for low income and first generation students. A MiSA (mē-sa) analysis of these students indicates that it is not retention in early years that is the problem. Rather the problems in the graduation rates appear to arise after several successful years of study. This may be due to the accumulation of advising or financial issues. Low income & 1st gen students represent nearly two out of three BSU native undergraduates each year. Gender gaps remain, but first gen & low income women also underperform women who are not first gen or low income.

Overall Graduation & Retention Rates: All Groups

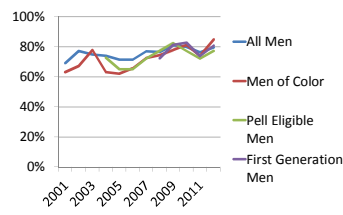
Four Year Graduation Rates



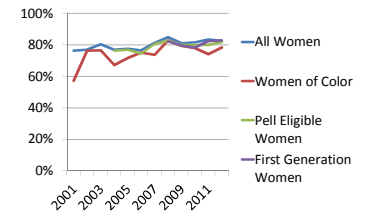
Six Year Graduation Rates



Men: 1st Year Retention



Women: 1st Year Retention

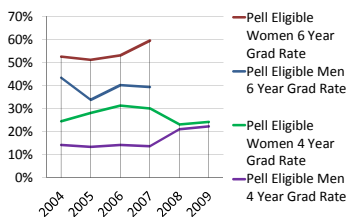


While significant improvements in 4-year and 6-year rates are seen since 2004, low income and students of color remain behind. The gap for students of color is closing, but the gap for low income students in the 6-year rate is a little wider than the gap in the 4-year rate.

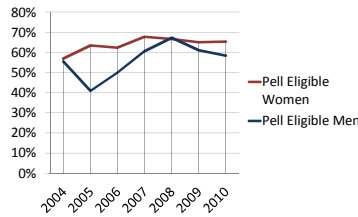
The one year retention rates of both men and women have steadily improved, with differences across groups largely eliminated. All groups are retained near 80% each year.

Low Income Students by Gender

4 & 6 Year Graduation Rates



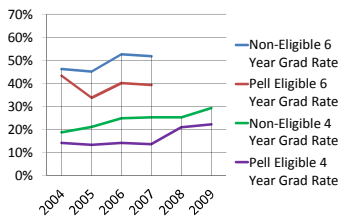
Continuation to 4th Year



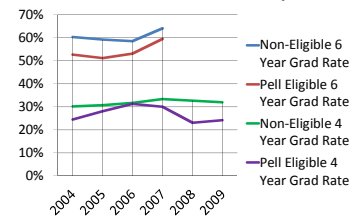
Men: the 6 year graduation rates for men have traditionally been very low, but we do see small improvements in their continuation and 4-year graduation rates since the 2007 cohort.

Women: the 6 year graduation rate improved in 2007, but the 4-year graduation rates fell the following two years. The continuation rates look steady since 2006, so there may be hope there will not be a drop in the overall 6-year graduation rates.

Men: Graduation Rates by Income



Women: Graduation Rates by Income



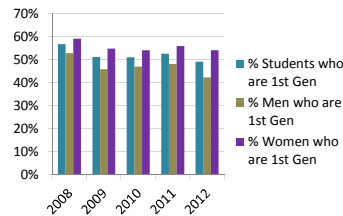
Men: we've seen some recent improvement in 4-year graduation rates for men, including narrowing of the gap between Pell-eligible and non-eligible men, but the gap for men remains wide.

Women: traditionally, Pell-eligible women have tracked the general performance of non-eligible women, though a gap in the 4-year rates opens in recent years.

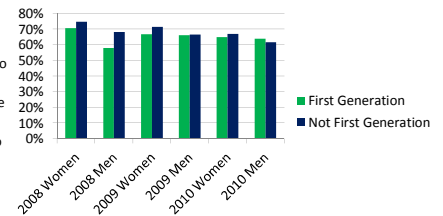
Five is 75: Low income men and women continue to have less success than their non-eligible counterparts.

First Generation Students by Gender

Percentages of 1st Gen Students



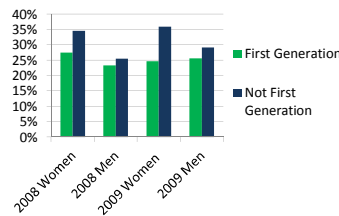
Continuation to 4th Year



Data on first generation college students has been collected since 2008, meaning that this May (2014) will be the first year we will have 6-year graduation rates. The overall percentage of first generation students has been declining since 2008, driven in large part by fewer men coming from first generation families.

The rate by which first generation students continue to the 4th year has remained fairly consistent, with first generation women about 5% points less likely to remain into a 4th year than non-first generation women. First generation men show very little difference in continuation rates to the 4th year after the 2008 cohort.

4 Year Graduation Rates

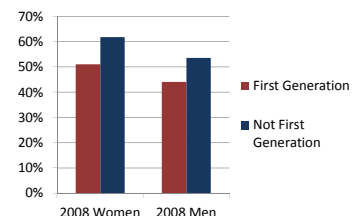


Men: about a 3% gap between 1st gen men and non-1st gen men in the 4 year graduation rate.

Women: 11% gap in 2009, and 7% gap in 2008.

Both 1st gen men and women have 5-year graduation rates that are 11% points lower than non-1st generation counterparts.

5 Year Graduation Rates



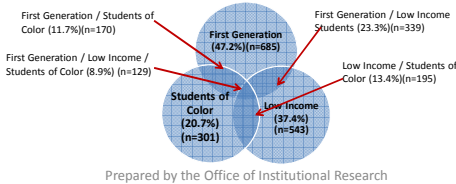
Five is 75: The first year retention of 1st gen students is fine. Difficulties arise later in the college careers of 1st gens.



Five is 75: Comparison Data with Peer Institutions & State Public Universities

This poster attempts to provide context for the data related to student success. First, we examine the sizes of various populations at Bridgewater, and the associated uncertainties due to those population sizes. Then we use the IPEDS Data Center to examine data that is publically available on other public universities in Massachusetts or in our group of official peer institutions. We find that Bridgewater's overall gender gap is large compared to most state public universities and our peer group, that we do a good job with first year student retention, but that our graduation rates are solid, but not exceptional compared to our peer group.

2013 First-Time Full-Time Freshmen Cohort (N=1,451)



Comments on Cohort Size, Expected Scatter in Rates

- The uncertainty in the retention or graduation rates can be estimated as proportional to $1/\sqrt{N}$.
- Given that the overall cohorts are about 1500 students, differences in graduation rates in the overall cohorts less than 3% are likely to not be significant.
- For groups like men of color, with about 100 to 150 students, we should expect annual variations in the 8 to 10% range.
- When looking at increases or decreases in rates, one has to be very careful to look for multiple year trends, which, because they have larger N values, have smaller uncertainties.

	White Women	White Men	Women of Color	Men of Color	Not Eligible Women	Eligible Women	Not Eligible Men	Eligible Men	Not First Gen Women	First Gen Women	Not First Gen Men	First Gen Men
2001	639	406	56	38								
2002	689	451	80	52								
2003	681	490	64	50								
2004	652	493	61	60	578	135	454	99				
2005	665	510	81	58	625	121	485	83				
2006	649	517	88	67	577	160	492	92				
2007	840	543	95	73	745	190	476	140				
2008	804	498	111	51	702	213	439	110	374	541	259	290
2009	755	510	111	77	622	244	443	144	392	474	318	269
2010	703	522	109	97	548	264	443	176	373	439	328	291
2011	684	486	154	127	560	278	451	162	370	468	318	295
2012	667	496	162	100	594	235	455	141	381	448	344	252

5 is 75: A 5% gain in the overall population is 75 students, but, a 5% gain for each subgroup is

- 7 Low Income Men
- 12 Low Income Women
- 5 Men of Color
- 8 Women of Color
- 13 First Gen Men
- 22 First Gen Women

Gender Gap in 6 year Graduation Rates: MA Public Universities and Peer Institutions

Public Universities in MA:
(% of Women - % of Men)

Bridgewater's Peer Institutions:
(% of Women - % of Men)

Gender Gap Notes:

	2006 Cohort	2005 Cohort	2004 Cohort	2003 Cohort	Average
Worcester State	10%	14%	7%	15%	12%
UMass Boston	12%	10%	16%	7%	11%
Bridgewater State	6%	15%	13%	11%	11%
UMass Lowell	11%	13%	14%	4%	11%
Framingham State	11%	11%	3%	11%	9%
Salem State	9%	8%	7%	4%	7%
UMass Dartmouth	2%	5%	7%	9%	6%
Fitchburg State	7%	1%	0%	10%	5%
UMass Amherst	4%	4%	4%	5%	4%
Westfield State	0%	0%	3%	3%	2%
MCLA	-2%	-12%	14%	5%	1%

	2006 Cohort	2005 Cohort	2004 Cohort	2003 Cohort	Average
Kean University	16%	15%	15%	17%	16%
William Paterson Univ. NJ	12%	16%	15%	10%	13%
Central Connecticut State	11%	14%	10%	16%	13%
Bridgewater State	6%	15%	13%	11%	11%
Shippensburg Univ. of PA	14%	10%	10%	10%	11%
Kutztown Univ. of PA	12%	9%	9%	14%	11%
SUNY Coll. at Cortland	7%	12%	4%	15%	10%
Rhode Island College	8%	10%	9%	9%	9%
Cal. State Univ.-Bakersfield	10%	8%	9%	8%	9%
Radford University	7%	7%	9%	12%	9%
Bloomsburg University	8%	8%	4%	7%	7%

- The 2007 gender gap at Bridgewater is 14%, so the 6% difference in 2006 is not "turning a corner."
- The gender gap in the completion rate (students who begin at BSU and finish a 4-year degree anywhere) appears to be smaller than the BSU graduation rate gender gap.
- A gender gap can close because men do better or women do worse. Or it can open up if women improve and men stay the same. Our goal should be to help both men and women improve in their performance.

Overall Graduation and Retention Rates: MA Public Universities and Peer Institutions

1st Year Retention:
MA Universities

1st Year Retention:
Peer Institutions

6 Year Graduation Rates:
Peer Institutions

6 Year Graduation Rates
MA Universities

	1 Year Retention Rate 2011 Cohort
UMass Amherst	88
Bridgewater State	81
UMass Lowell	81
Westfield State	81
UMass Boston	79
Worcester State	78
Fitchburg State	75
MCLA	75
Framingham State	74
Salem State	74
UMass Dartmouth	74

	1 Year Retention Rate 2011 Cohort
Bridgewater State	81
SUNY College at Cortland	80
Bloomsburg University	78
William Paterson Univ. NJ	77
Central Connecticut State	76
Rhode Island College	75
Radford University	74
California State Univ. Bakersfield	72
Kean University	72
Kutztown Univ. of PA	71
Shippensburg Univ. of PA	68

	6 Year Graduation Rate 2006 Cohort
SUNY Coll. at Cortland	69
Bloomsburg Univ. of PA	64
Radford University	60
Shippensburg Univ. of PA	57
Bridgewater State	54
Kutztown Univ. of PA	54
Central Connecticut	52
Kean University	50
William Paterson Univ. NJ	48
Rhode Island Coll.	43
California State Univ. Bakersfield	39

	6 Year Graduation Rate 2006 Cohort
UMass Amherst	70
Westfield State	60
Bridgewater State	54
UMass Lowell	54
Framingham State	52
Fitchburg State	51
Worcester State	51
UMass Dartmouth	50
MCLA	47
Salem State	45
UMass Boston	38

Bridgewater's 6-Year Graduation Rate was about 58% for the 2007 cohort.

We expect the BSU graduation rate to plateau just below 60%, which is good for the state, but not outstanding compared with our peer institutions.

Bridgewater has high 1st year retention rates, but the issues related to senior students graduating (see MiSA on other posters) indicate problems arising later that may be depressing BSU 6-year graduation rates. Bridgewater ranks 6th out of our 11 peer institutions, and 6th out of the 11 public universities in MA, in the 4-year graduation rate of the 2008 cohort.

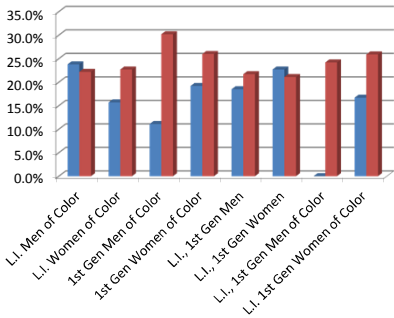


Five is 75: Students from Multiple Underserved Populations

Here we examine students who fall into more than one underserved category in the first-time, full-time freshmen populations. Our data is most complete since 2008, and remarkably, there are significant changes in student performance between the 2008 and 2009 cohorts. Given the role of the Project Compass grant and the timing of its early activities, it is likely that the improvements seen in the 2009 cohort relative to the 2008 cohort represent real changes due to activities by Bridgewater faculty, staff, and administrators. Looking at the 2009 cohort, we see very little difference in 1st Year Retention across groups, but substantial differences in graduation rates, driven in large part by income.

Overall Graduation Rates: 2008 and 2009

Notes: L.I. indicates Low Income (Pell Eligible). We do not report data on the 2008 L.I. Men of Color because only 15 people were in this group.

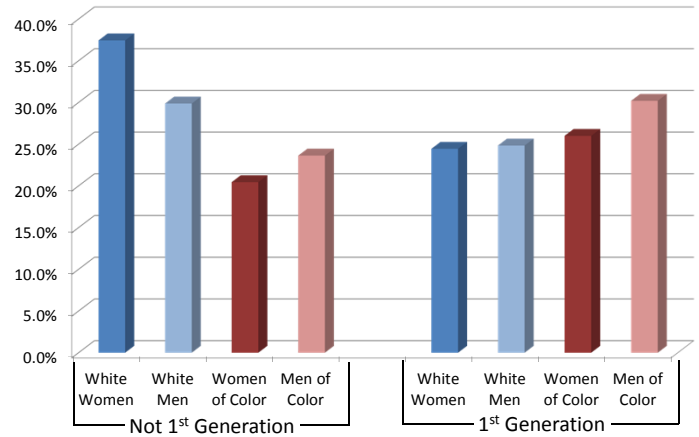


The graduation rates of many groups improved dramatically between the 2008 and 2009 cohorts. The differences in the rates for Low Income Women of Color and 1st Gen Women of Color are roughly 1 sigma changes.

The 4-year graduation rate for all students was 28% & 29% in 2008 & 2009, respectively.

First Generation & Students of Color

4-Year Graduation Rates (2009 Cohort)



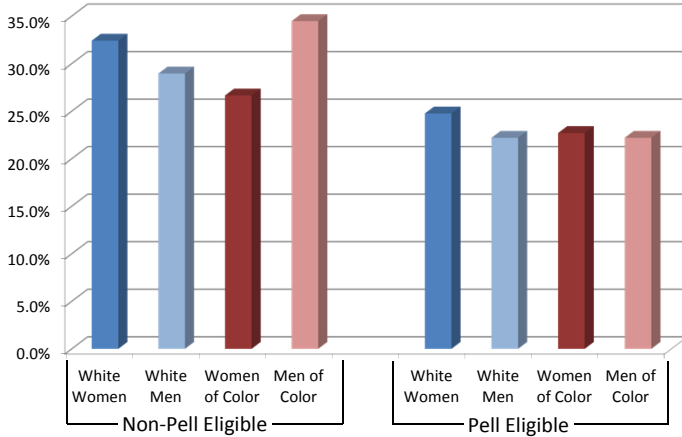
For students who are not 1st generation, white students have a 4-year graduation rate that is 12% points higher than students of color. But, for 1st generation students, students of color have a 4-year graduation rate that is 3% higher than white students.

For white students, 1st generation students lag white students who are not 1st generation by about 10% points.

Unexpectedly, 1st generation students of color have graduation rates that are 5.4% points higher than non-1st generation students of color in the 2009 cohort.

Students of Color & Low Income

4-Year Graduation Rates (2009 Cohort)

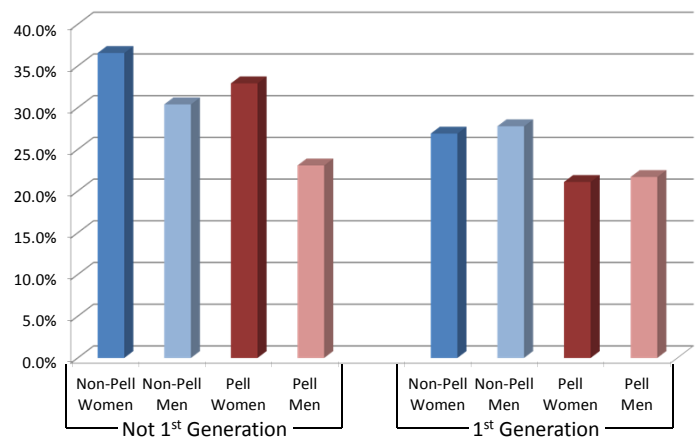


Within the non-Pell eligible or Pell eligible categories, white students have an average 4-year graduation rate that is about 1% point higher than students of color averaging across gender.

Across the income categories, non-Pell eligible students have graduation rates over 7% points higher than Pell-eligible students for both white students and students of color averaging across gender.

First Generation & Low Income

4-Year Graduation Rates (2009 Cohort)



Women who are not first generation, including low income women who are not first gen, graduate at higher than 30%.

Adding 1st gen status produces a large drop-off in graduation rate for women (over 10% points), and a smaller drop-off for men (about 2% points).

Groups Doing Relatively Well

2009 First-Time, Full-Time Freshmen Cohort	N	4 Year Graduation Rate
Non-1st Gen, White Women	358	37.4%
Non-Eligible, Non-1st Gen Women	328	36.6%
Non-Eligible, Men of Color	32	34.5%
Low Income, Non-1st Gen Women	64	32.9%
Non-Eligible, White Women	577	32.4%
Non-Eligible, Non-1st Gen Men	266	30.4%
1st Gen, Men of Color	43	30.2%
Non-1st Gen, White Men	284	29.9%
Non-Eligible, White Men	411	29.0%

Groups Doing Relatively Poorly

2009 First-Time, Full-Time Freshmen Cohort	N	4 Year Graduation Rate
1st Gen, White Men	226	24.8%
Low Income, White Women	178	24.8%
1st Gen, White Women	397	24.4%
Non-1st Gen, Men of Color	34	23.6%
Low Income, Non-1st Gen Men	52	23.1%
Low Income, Women of Color	66	22.7%
Low Income, White Men	99	22.2%
Low Income, Men of Color	45	22.2%
Low Income, 1st Gen Men	92	21.7%
Low Income, 1st Gen Women	180	21.1%
Non-1st Gen, Women of Color	34	20.5%

Every group of low income students, except low income, non-1st gen women, fall below the 25% four year graduation rate level.

Income seems to level certain other factors – see the group for low income starting with non-1st gen men.

Five is 75: Target groups: low income students, particularly low income men; all students of color, particularly those who are not 1st gen, and 1st gen students, particularly women.