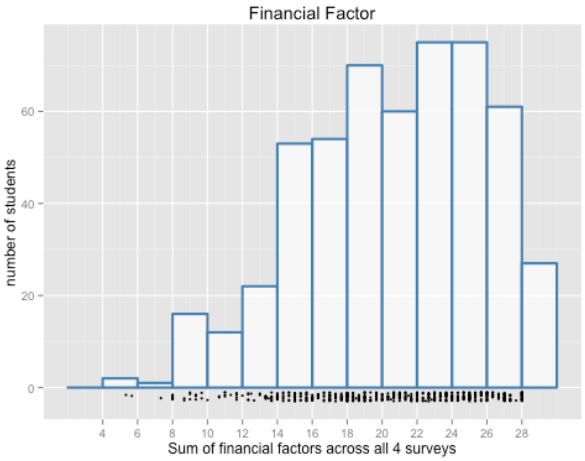
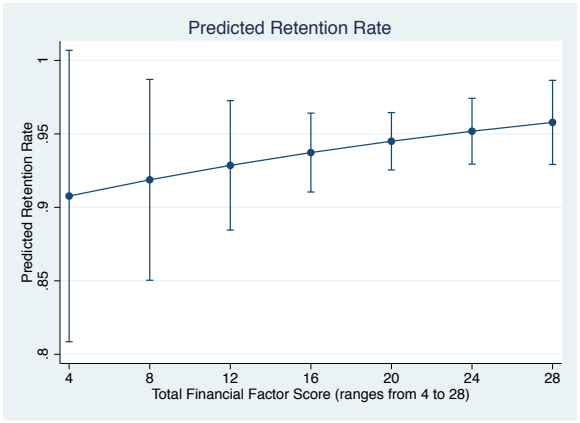
Data: 2012-13 and 2013-14 MAP-Works results: 1154 students with 1153 variables (questions, factors, demographic information)
240 students dropped before second year (79% retention rate)

Financial Concerns

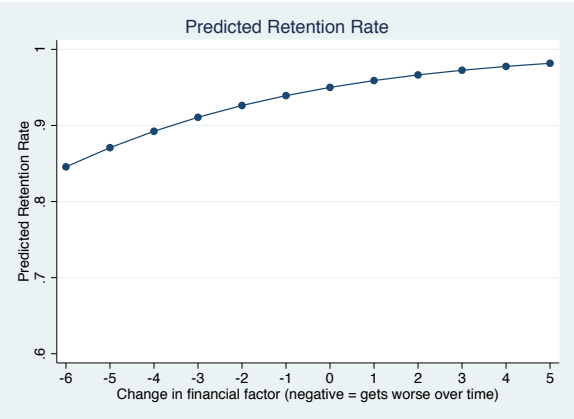
- At first,it seems as though the financial factor in MAP-Works doesn't predict retention at all. Students with higher financial factor scores are more likely to return to St. Ambrose, but a low financial factor score really doesn't tell us anything. This graph shows the predicted retention rates for students with various financial factor scores (ranging from 4 to 28). Even with the lowest possible financial factor score, we still predict over a 90% retention rate (demonstrating that it doesn't really predict anything).

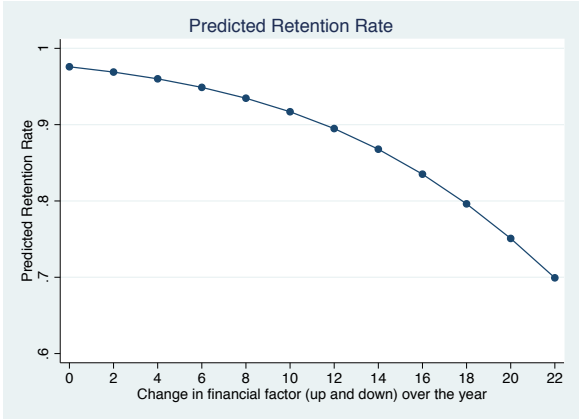




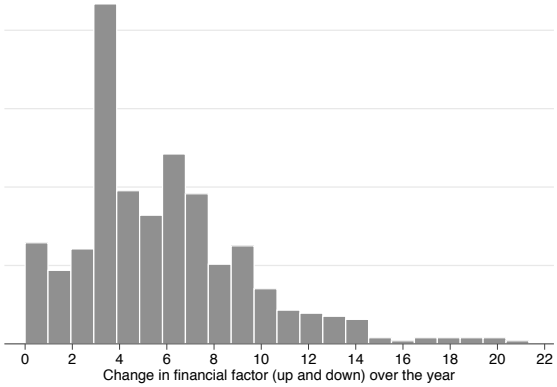
- It's the change in the financial factor over the course of the academic year that predicts retention. The graph on the left shows that students with financial factors that drop over time have lower predicted retention rates. Even so, we still predict an 85% retention rate for students whose financial factor scores drop the most. If a student's financial situation gets worse as the year goes on, it slightly impacts retention.

  The graph on the right shows what I think is really going on with the financial factor. It shows how any change in the financial factor (positive or negative) impacts retention. Students who experience the most change have the worst retention. From this, I'd conclude it's the unpredictability of a student's financial situation over time that increases the likelihood of a student dropping out.

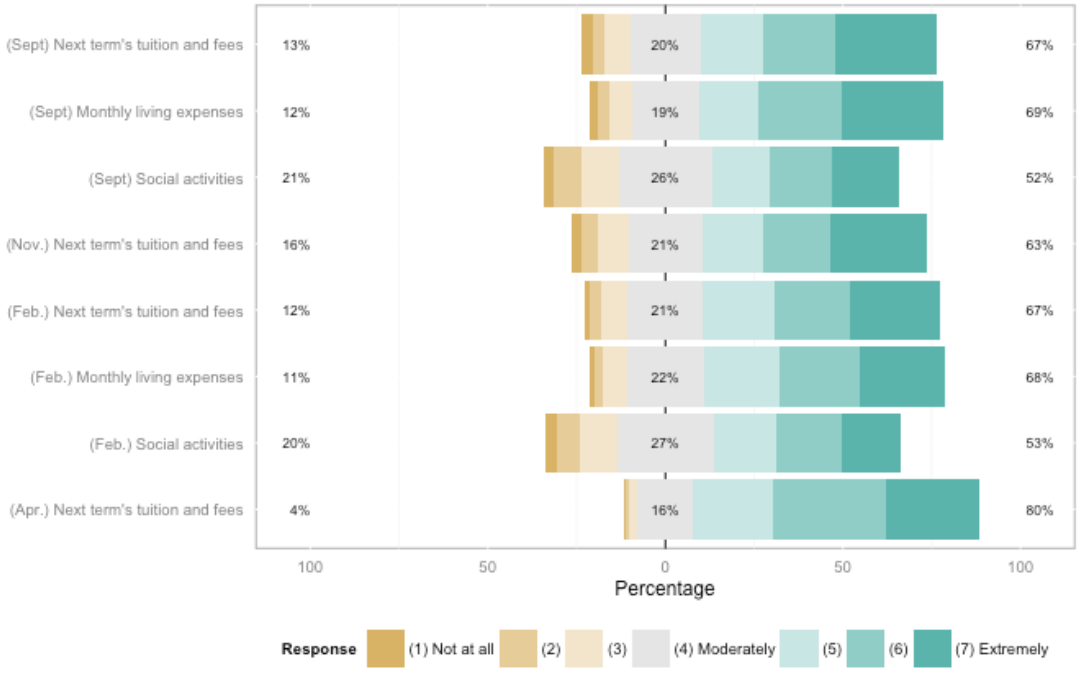




The graph to the right shows how many students experience changes in their financial factor scores over the year. Those students in the high end (whose score changes by at least 10 points) are 3.5 times more likely to drop out than students in the low range (with stable financial factor scores).



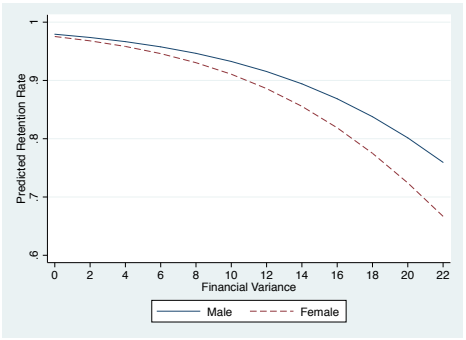
- So what's included in this financial factor score? This graph shows the items that are used to determine the financial factor. Each item asks a student to rate their confidence in their ability to pay for tuition, living expenses, or social activities on a scale from 1 (not at all confident) to 7 (extremely confident). As you can see, overall, confidence improves as the year goes on. This could be due to the fact that the response rate declines over the year (and less financially-confident students might be less likely to respond to a survey). Note that we do have some evidence of this, as students who do not respond to the last survey in April have slightly lower financial factor scores than students who respond to all 4 surveys.



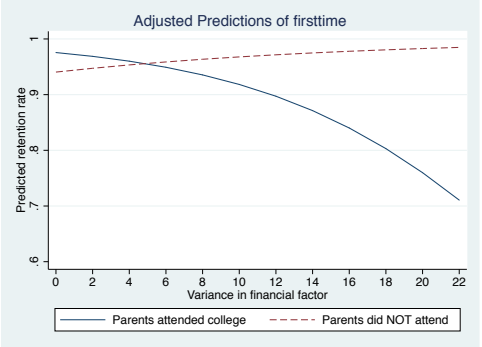
- What factors might predict changes in a student's financial status over the course of a year?

Race: While minority students consistently have lower financial factor scores, they also have lower variability in the financial factor over time. It is true that minority students have a lower predicted retention rate (74%) than white students (81%). If we look at students with the same financial factor scores, however, minority students have virtually identical retention rates as white students.

Gender: Male and female students have virtually identical financial factor scores (and variability in financial factor scores over time). We know retention rates for male students (predicted at 75%) are lower than for female students (82%). What might be interesting is that female students are more sensitive to changes in their financial factor scores. The graph to the right shows predicted retention rates for male and female students as a function of the changes in their financial factor scores. When variability is low (financial status does not change over the year), retention rates are virtually identical. For students with more financial instability, female students have a much lower retention rate.



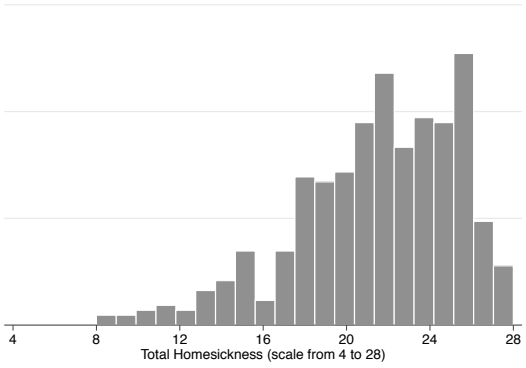
Parent's education: Almost 10% of students in the MAP-Works data had parents who did not attend college at all. These students had significantly lower financial factor scores than students with parents who did attend college. The variability in their financial factor scores, though, was almost identical to students with parents who did attend college. For some reason, students with parents who did NOT attend college are less sensitive to changes in their financial status. In fact, the financial factor doesn't seem to matter at all when it comes to students whose parents did NOT attend college.



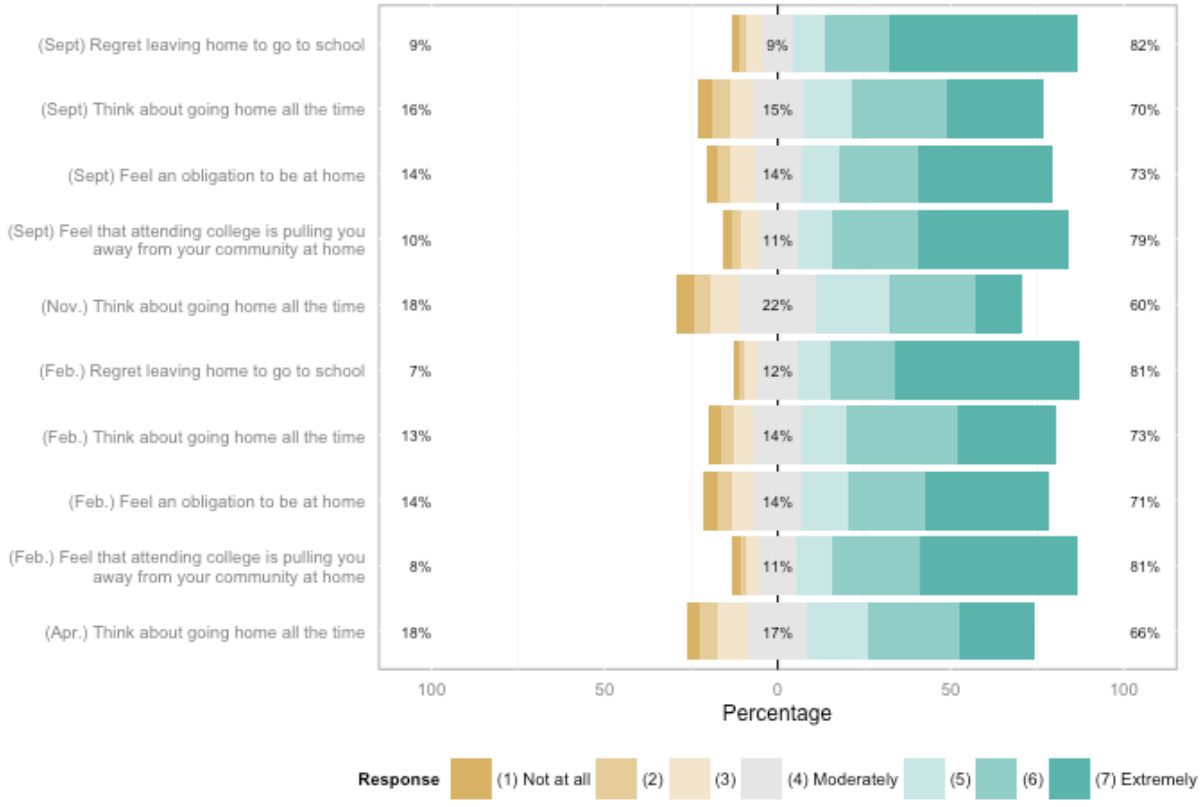
Homesickness (Distressed)

- Overall, homesickness has only a small correlation with retention. For the most part, students with slightly different homesickness scores have the same predicted retention rate. Likewise, changes in a student's homesickness over time do not seem to predict retention at all.

- It appears as though the homesickness factor only matters when it's extremely low. The graph to the right displays the sum of the homesickness (distressed) scores for students across all four MAP-Works surveys. The students who score high (have little homesickness) are predicted to have a retention rate above 90%. The students who score below 15 (those with greater homesickness) are predicted to have a retention rate of 70%.

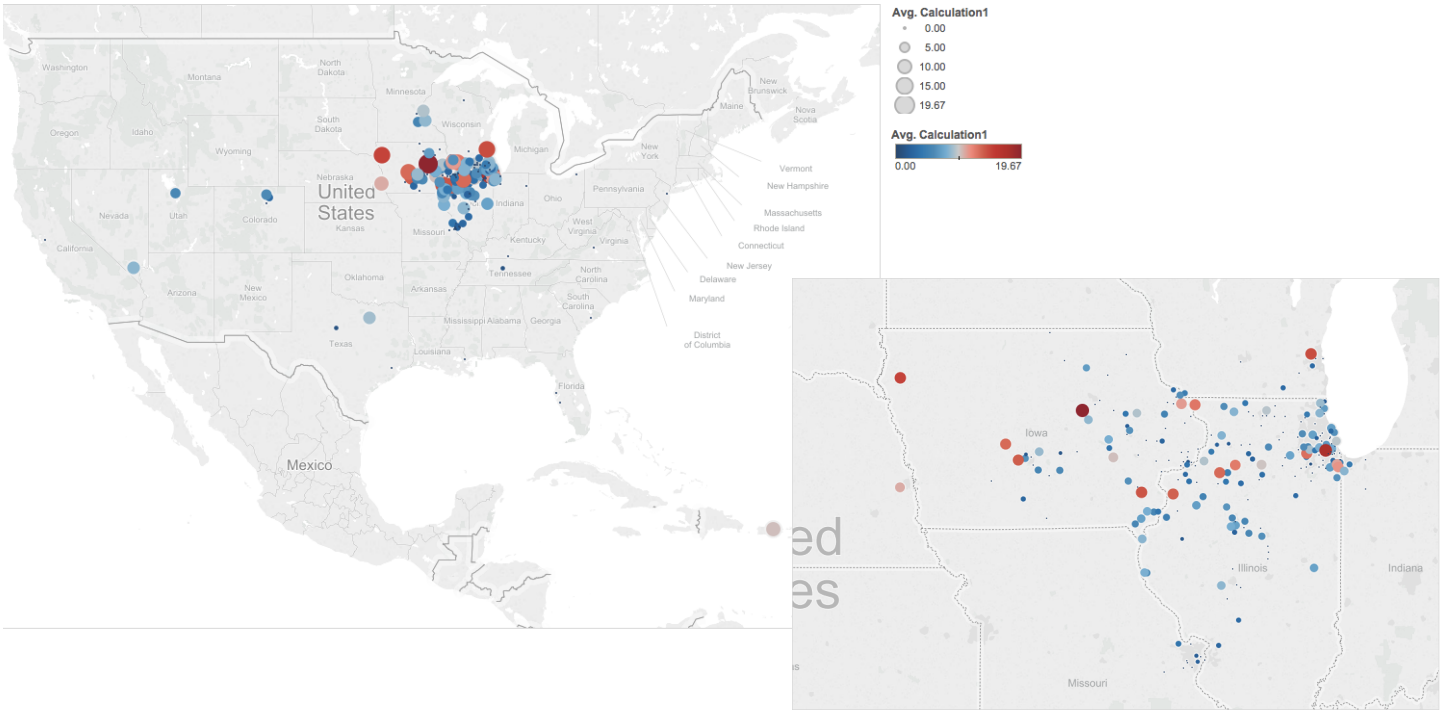


- So what's included in this homesickness (distressed) score? This graph shows the items. Each item asks a student to rate the degree to which they do each statement on a scale from 1 (extremely) to 7 (not at all). There's not much of a trend across the questions (or across time), but the most homesickness appears in the questions on the November and April surveys. That reinforces the belief that students get more homesick as the semester goes on.



- What factors might predict homesickness? Gender, race, and whether a student's parents attended college had no discernible impact on homesickness. Likewise, academic preparation (ACT scores, high school GPAs, and high school ranks) had virtually no relationship with homesickness.

Zip Code: Students who travel further from home to St. Ambrose might be expected to have higher levels of homesickness. To investigate this, the map on the following page was created. Each dot locates a student's hometown. Larger (and more red-colored) dots represent worse levels of homesickness. The map on the right zooms in to highlight our immediate region (and the pockets of the highest levels of homesickness).



Residence Hall: Last March, I took a look at what MAP-Works items correlated with homesickness. For some reason, homesickness scores varied by residence hall:

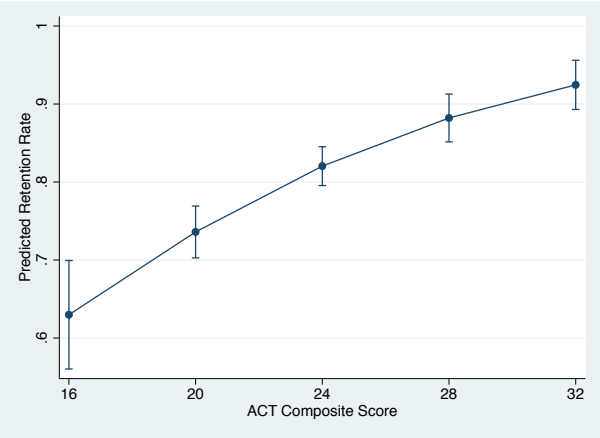
Residence Hall	Number of students	Average Homesick score
N3-2	36	24.09091
N3-1	30	23.81818
DA-4	17	23.20000
CO-5	61	23.16327
CO-4	57	23.10870
N6-1	26	22.88889
N3-3	40	22.56000
N3-4	36	22.12500
RO-4	15	21.77778
CO-3	58	21.72222
N6-2	35	21.53125
DA-2	18	21.46154
DA-1	10	20.00000
CO-2	56	18.64706
DA-3	21	17.50000
HA-3	13	17.14286

Other factors: Here are the other items I found last March that correlated with homesickness (range of correlations across surveys):

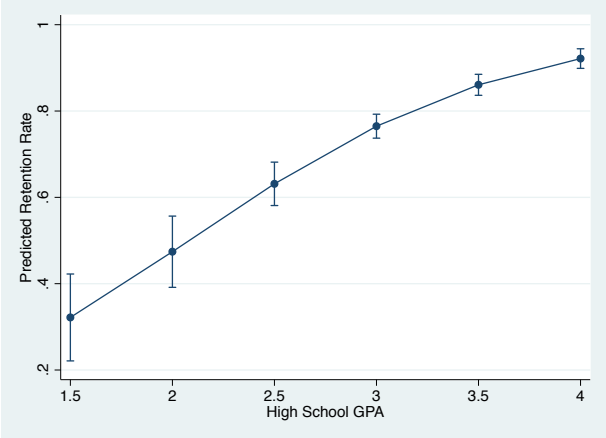
- Degree to which students are adjusting to living in on-campus housing (.35-.46)
- Degree to which students are satisfied with the social activities in hall/building (.31-.34)
- Degree to which students make friends with others in the hall/building (.31-.33)
- Degree to which students' roommate(s) respect their sleep time (.28-.40)
- Degree to which students are able to sleep in their room (.24-.31)
- Degree to which family obligations are interfering with ability to complete coursework (.23-.30)
- Degree to which students are able to study in their room/hall (.23-.27)

Academic Behaviors, Preparation, and Advising

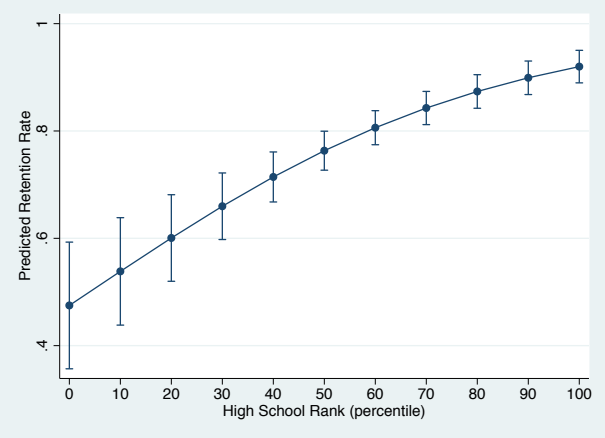
- As expected, student academic preparation is a good predictor of retention. The following graphs show the predicted retention rate for students based on ACT scores, high school GPA, high school rank, and GPAs at St. Ambrose. As expected, less-prepared and less-academically successful students are much more likely to drop out.



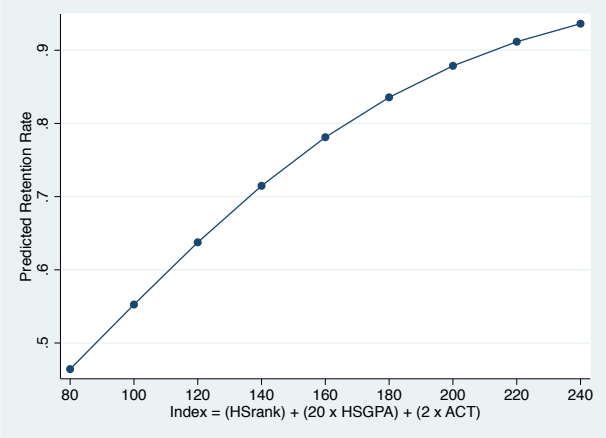
Students with ACT scores of 18 or below have a predicted retention rate below 70%.



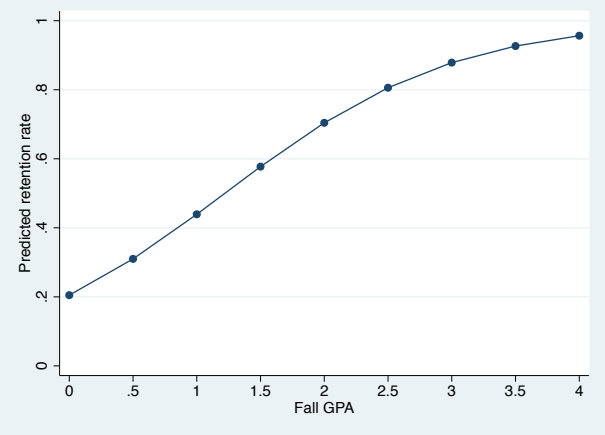
Students with high school GPAs of 2.5 have a predicted retention rate around 60%. Students with high school GPAs of 2.00 or lower have predicted retention rates below 50%.



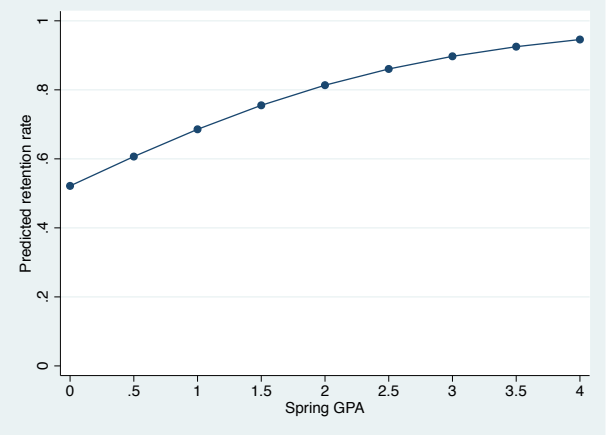
Lower high school ranks are associated with lower retention. Students in the lowest third of their high school class have predicted retention rates below 50%.



I modified the Iowa Regent's Admissions Index:
Index = HS Rank + (20 x HSGPA) + (2 x ACT)
For students with an index score of 140, the predicted retention rate is around 70%. Index scores of 100 or below are associated with 50% (or lower) retention.



First semester GPAs at St. Ambrose are strong predictors of retention rate. Students with Fall GPAs below 2.00 are predicted to have retention rates below 60%.

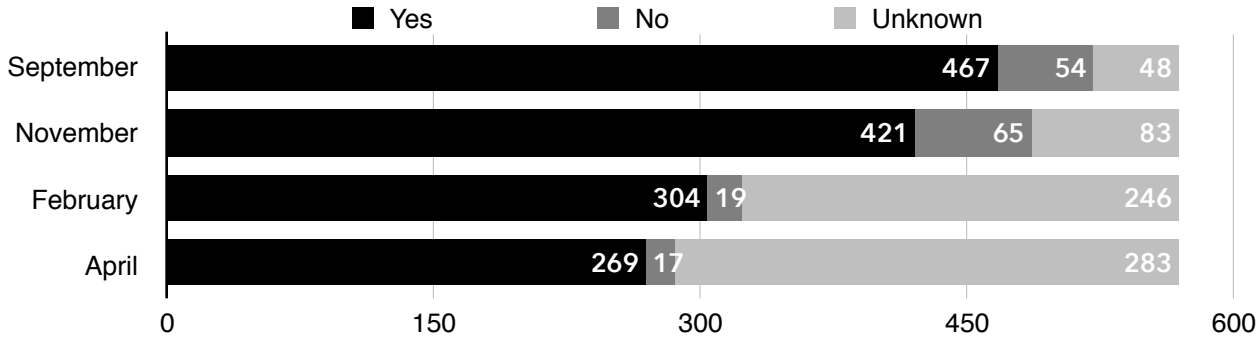


Spring semester GPAs are not as useful in predicting retention rates. Even so, lower GPAs are associated with lower retention rates.

- As might also be expected, advising-related factors are related with retention. This year, my MAP-works analyses will focus, in part, on some of the advising-related issues. For now, I only looked at the issue of choosing a major.

Here are some results I found from last year's MAP-works data:

Have you decided what your major/program is or will likely be?



With the growing number of non-responders, it's difficult to compare these results from survey-to-survey.

Of the 246 students who responded to this question across all 4 surveys…

206 (84%) had decided on a major in September, November, February, and April

228 (93%) had decided on a major in September

22 of these 228 students became undecided at some point; 7 were undecided in April; 5 were decided until April

18 (7%) had not decided on a major by September

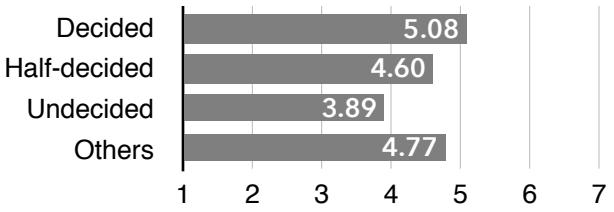
5 students decided by November; 6 by February; 7 by April

4 (2%) had not decided on a major all year

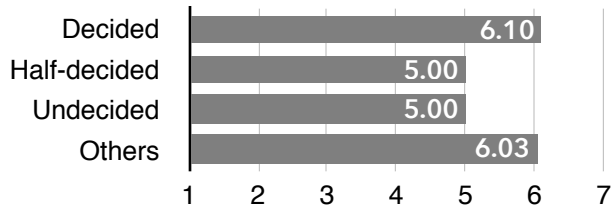
I'm going to classify these 246 students into 3 categories:

206 students who had decided on a major all year (**decided**)
30 students who had decided on a major for at least half of the surveys (**half-decided**)
10 students who had not decided on a major at all or for only one survey (**undecided**)

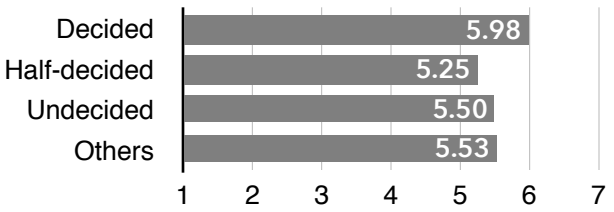
I have had meaningful conversations with my academic advisor about my major and career planning.



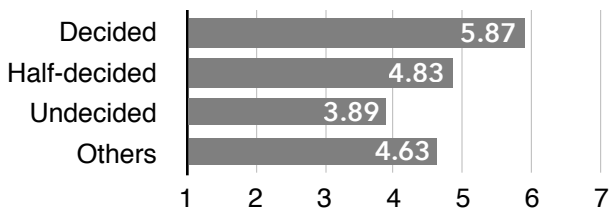
I am confident that I have selected a major that fits my educational goals



Choosing a major makes me feel confident about returning to SAU next fall



I have had adequate time to explore majors available at SAU



In the future, if I need to talk to someone about choosing a major, I will most likely choose (select your top three):

Only 48 responses were given to this item (from students who are undecided). Of these 48 responses:

15 = Academic Advisor
9 = Family Members
5 = Peers at SAU
4 = Advising Office staff
4 = Career Center Counselor
3 = My coaches
3 = Other faculty
2 = Residence Hall Staff
2 = Mentors not at SAU
1 = Others
0 = Peers not at SAU

- How does choice of major relate with retention?

  An analysis of the 2012-13 MAP-Works data showed that students who identify themselves as having declared a major have higher retention rates. More importantly, students who go from decided to undecided (or from undecided to decided) have lower retention rates. Students who switch more frequently throughout the year (from decided to undecided) have lower retention rates.