DECREASE IN GPA PREDICTS NEXT SEMESTER DEPARTURE

MAY 2015

Summary

- For students who experience a decrease in GPA, the larger the decrease, the greater the risk of departure (i.e., non-enrollment in) the next semester.
- This holds for decreases in semester GPA relative to cumulative GPA and decreases in cumulative GPA from one semester to the next.
- As students progress through their academic careers, smaller decreases in GPA predict greater risks of departure.
- Decrease in GPA could be used as an indicator of the degree to which students are at risk for departure. Based on this information and other student characteristics, intervention could be designed to provide support and lessen this risk.



Methodology

Cohorts Studied

GPA and enrollment records of first-time, full-time students in the entering cohorts of 2008-2013 were analyzed.

Calculation of Decrease in GPA

Two different measures of decrease in GPA were taken:

- semester GPA was subtracted from the previous semester's cumulative GPA (cumulative – semester)
- cumulative GPA was subtracted from the previous semester's cumulative GPA (cumulative – cumulative)

Calculation of Departure Risk

- Students were grouped by the degree of decrement in their GPA.
  - For the cumulative – semester difference, groups reflected decrements of a quarter-point (e.g., 0-.25, .25-.50, .50-.75, etc.).
  - For the cumulative – cumulative difference, groups reflected decrements of one-twentieth of a point (e.g., 0-.05, .05-.10, .10-.15, etc.).
- Students who did not experience a decrease in GPA were grouped together as "Increase/No Change."
- The percentage of students who departed after each semester (i.e., did not enroll in the next semester) was calculated for each group.
  - Example: Semester GPA for the first spring was subtracted from cumulative GPA for the first fall, and departure after one year was calculated.
- The rate of departure after each semester (1st Spring – 4th Spring) for each group was compared to the average rate. This revealed if students of each degree of GPA decrement had an average, lower-than-average, or higher-than-average risk of departure.

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Findings

Cumulative – Semester Difference in GPA

Rate of Departure per Change in Semester GPA Relative to Cumulative GPA
(Number of Percentage Points Departure Rate Is Below (Negative Values) or Above (Positive Values) Semester Average)

Change in Semester GPA Relative to Cumulative GPA (across previous two semesters)	1st Fall – 1st Spring cum	1st Fall – 1st Spring sem	1st Spring – 2nd Fall cum	1st Spring – 2nd Fall sem	2nd Fall – 2nd Spring cum	2nd Fall – 2nd Spring sem	2nd Spring – 3rd Fall cum	2nd Spring – 3rd Fall sem	3rd Fall – 3rd Spring cum	3rd Fall – 3rd Spring sem	3rd Spring – 4th Fall cum	3rd Spring – 4th Fall sem	4th Fall – 4th Spring cum	4th Fall – 4th Spring sem
Departure Rate After	1 Year		1 ½ Years		2 Years		2 ½ Years		3 Years		3 ½ Years		4 Years	
Average Departure Rate	6.7%		2.5%		4.7%		2.3%		2.0%		1.0%		4.7%	
Increase/No Change	6.5%	(-0.2)	1.8%	(-0.7)	3.8%	(-0.9)	2.0%	(-0.3)	1.1%	(-0.9)	0.6%	(-0.4)	2.2%	(-2.5)
Decrease 0 to .25	5.0%	(-1.7)	1.8%	(-0.7)	3.3%	(-1.4)	1.6%	(-0.7)	1.2%	(-0.8)	0.4%	(-0.6)	3.3%	(-1.4)
Decrease > .25 to .50	5.4%	(-1.3)	1.7%	(-0.8)	4.6%	(-0.1)	1.5%	(-0.8)	2.6%	(0.6)	1.1%	(0.1)	6.8%	(2.1)
Decrease > .50 to .75	8.6%	(1.9)	3.8%	(1.3)	6.1%	(1.4)	3.0%	(0.7)	3.6%	(1.6)	1.5%	(0.5)	11.9%	(7.2)
Decrease > .75 to 1.0	10.4%	(3.7)	4.9%	(2.4)	7.6%	(2.9)	3.7%	(1.4)	4.6%	(2.6)	4.0%	(3.0)	15.6%	(10.9)
Decrease > 1.0 to 1.25	12.8%	(6.1)	8.1%	(5.6)	13.1%	(8.4)	9.3%	(7.0)	11.8%	(9.8)	10.4%	(9.4)	22.2%	(17.5)
Decrease > 1.25 to 1.5	17.3%	(10.6)	12.2%	(9.7)	20.5%	(15.8)	13.4%	(11.1)	18.6%	(16.6)	4.3%	(3.3)	44.1%	(39.4)
Decrease > 1.5 to 1.75	31.7%	(25.0)	25.0%	(22.5)	40.4%	(35.7)	23.5%	(21.2)	39.3%	(37.3)	13.0%	(12.0)	33.3%	(28.6)
Decrease > 1.75 to 2.0	34.6%	(27.9)	27.1%	(24.6)	44.2%	(39.5)	24.3%	(22.0)	42.9%	(40.9)	34.5%	(33.5)	48.0%	(43.3)
Decrease > 2.0	41.2%	(34.5)	38.6%	(36.1)	44.1%	(39.4)	31.9%	(29.6)	26.2%	(24.2)	26.8%	(25.8)	75.0%	(70.3)

- average or below average risk of departure
- slightly higher than average risk of departure
- moderately higher than average risk of departure
- significantly higher than average risk of departure

DECREASE IN GPA PREDICTS NEXT SEMESTER DEPARTURE

Findings

Cumulative – Cumulative Difference in GPA

As students progress through their academic careers, smaller decreases in cumulative GPA predict larger risks of departure.

Rate of Departure per Change in Cumulative GPA
(Number of Percentage Points Departure Rate Is Below (Negative Values) or Above (Positive Values) Semester Average)

Change in Cumulative GPA (across previous two semesters)	Change in GPA	1st Fall – 1st Spring		1st Spring – 2nd Fall		2nd Fall – 2nd Spring		2nd Spring – 3rd Fall		3rd Fall – 3rd Spring		3rd Spring – 4th Fall		4th Fall – 4th Spring	
		cum	cum	cum	cum	cum	cum	cum	cum	cum	cum	cum	cum	cum	cum
	Departure Rate After	1 Year		1 ½ Years		2 Years		2 ½ Years		3 Years		3 ½ Years		4 Years	
	Average Departure Rate	6.8%		3.1%		4.8%		2.9%		2.0%		1.4%		4.8%	
	Increase/No Change	6.6%	(-0.2)	2.2%	(-0.9)	3.8%	(-1.0)	2.5%	(-0.4)	1.2%	(-0.8)	0.8%	(-0.6)	2.3%	(-2.5)
	Decrease 0 to .05	4.7%	(-2.1)	2.5%	(-0.6)	3.3%	(-1.5)	2.5%	(-0.4)	1.6%	(-0.4)	0.8%	(-0.6)	4.3%	(-0.5)
	Decrease > .05 to .10	5.3%	(-1.5)	1.9%	(-1.2)	4.8%	(0.0)	1.8%	(-1.1)	3.1%	(1.1)	4.0%	(2.6)	14.0%	(9.2)
	Decrease > .10 to .15	4.9%	(-1.9)	3.4%	(0.3)	5.4%	(0.6)	3.7%	(0.8)	5.1%	(3.1)	3.8%	(2.4)	22.2%	(17.4)
	Decrease > .15 to .20	5.4%	(-1.4)	3.4%	(0.3)	7.4%	(2.6)	7.1%	(4.2)	14.4%	(12.4)	13.6%	(12.2)	43.3%	(38.5)
	Decrease > .20 to .25	7.5%	(0.7)	5.0%	(1.9)	10.5%	(5.7)	18.0%	(15.1)	18.3%	(16.3)	20.0%	(18.6)	56.7%	(51.9)
	Decrease > .25 to .30	8.6%	(1.8)	8.3%	(5.2)	13.0%	(8.2)	18.4%	(15.5)	17.6%	(15.6)	31.3%	(29.9)	90.9%	(86.1)
	Decrease > .30 to .35	9.7%	(2.9)	7.9%	(4.8)	18.4%	(13.6)	16.0%	(13.1)	27.8%	(25.8)	33.3%	(31.9)*	75.0%	(70.2)*
	Decrease > .35 to .40	6.9%	(0.1)	14.9%	(11.8)	39.6%	(34.8)	29.4%	(26.5)	45.5%	(43.5)	33.3%	(31.9)*	100%	(95.2)*
	Decrease > .40	17.5%	(10.7)	32.1%	(29.0)	46.5%	(41.7)	52.4%	(49.5)	66.7%	(64.7)*	50.0%	(48.6)*	0.0%	(-4.8)*

- average or below average risk of departure
- slightly higher than average risk of departure
- moderately higher than average risk of departure
- significantly higher than average risk of departure

The one student who had a GPA decrease this large at this time point was enrolled.

*Calculation of departure rate is based on fewer than 10 students.