

The Use of Survival Analysis to Compare Student Cohort Data

Dr. John Wiorkowski

Ms. Anna Moses

Dr. Lawrence J. Redlinger

Office of Strategic Planning and Analysis

Presented at the Association for Institutional Research Annual
Forum

Orlando, Florida

May 28, 2014



THE UNIVERSITY OF TEXAS AT DALLAS

Consortium for Student Retention Data Exchange (CSRDE)

University of Oklahoma

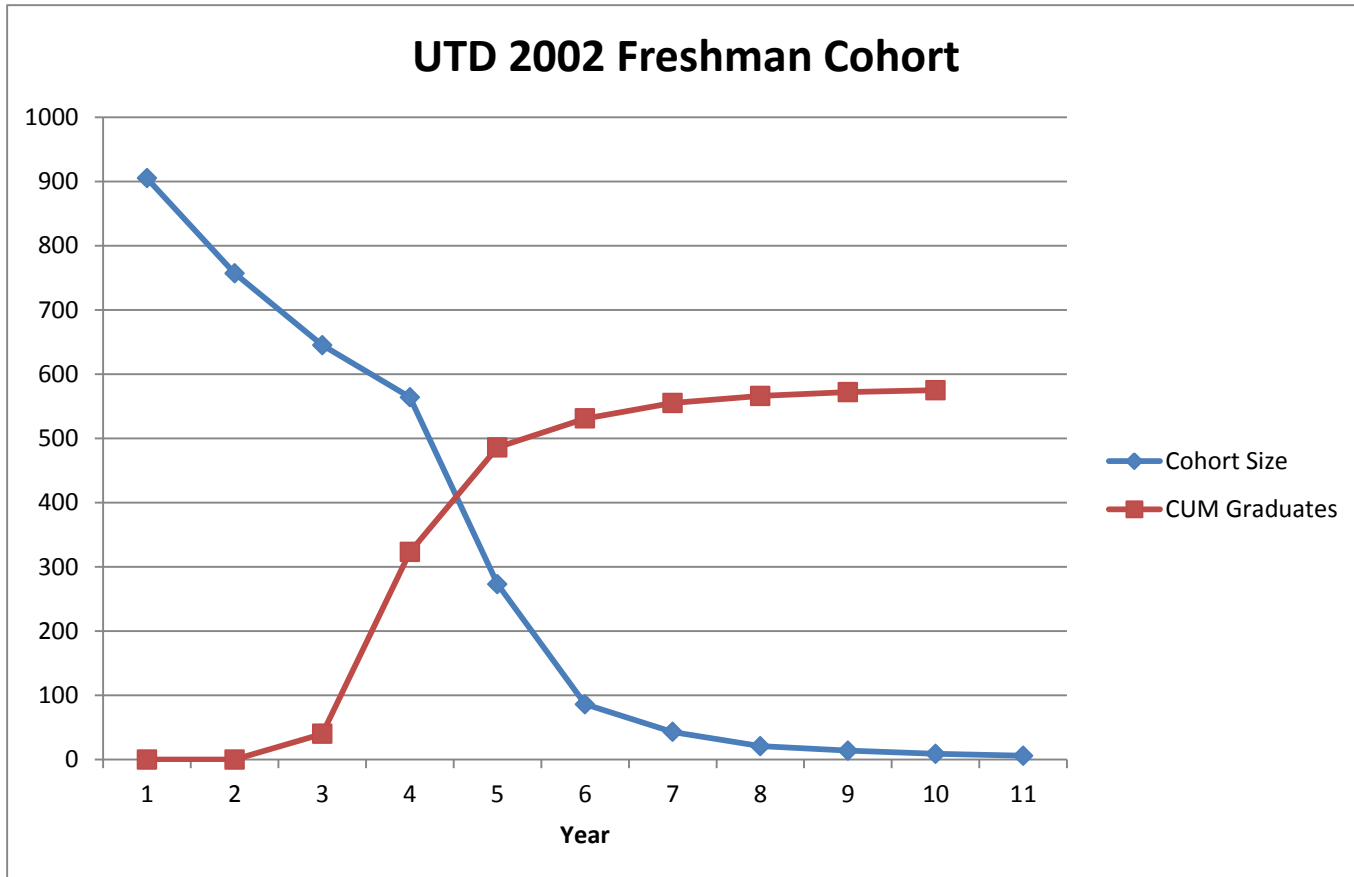
Basic data layout

RAW DATA UT DALLAS 2002 FRESHMAN COHORT (in Percentage Terms)

| Cohort Name | Cohort Size | Continued Year 2 | Continued Year 3 | Graduated Year 4 | Continued Year 5 | Graduated Year 5 | Continued Year 6 | Graduated Year 6 | Continued Year 7 | Graduated Year 7 | Continued Year 8 | Graduated Year 8 | Continued Year 9 | Graduated Year 9 | Continued Year 10 | Graduated Year 10 | Continued Year 11 |
|-------------|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|
| Total | 905 | 83.6% | 71.3% | 35.7% | 30.2% | 53.7% | 9.5% | 58.7% | 4.8% | 61.3% | 2.3% | 62.5% | 1.6% | 63.2% | 1.0% | 63.5% | 0.7% |
| Female | 404 | 83.7% | 71.3% | 45.3% | 24.0% | 59.4% | 6.9% | 63.9% | 3.0% | 65.8% | 1.2% | 66.8% | 0.7% | 67.3% | 0.5% | 67.6% | 0.5% |
| Male | 501 | 83.6% | 71.3% | 27.9% | 35.1% | 49.1% | 11.6% | 54.5% | 6.2% | 57.7% | 3.2% | 59.1% | 2.2% | 59.9% | 1.4% | 60.3% | 0.8% |
| Black | 61 | 85.2% | 78.7% | 24.6% | 42.6% | 44.3% | 13.1% | 50.8% | 9.8% | 55.7% | 4.9% | 57.4% | 0.0% | 57.4% | 0.0% | 57.4% | 1.6% |
| Hisp | 83 | 81.9% | 71.1% | 36.1% | 26.5% | 50.6% | 8.4% | 51.8% | 8.4% | 54.2% | 6.0% | 57.8% | 2.4% | 57.8% | 2.4% | 59.0% | 0.0% |
| Asian | 195 | 88.7% | 77.4% | 41.5% | 33.3% | 60.5% | 11.8% | 67.7% | 6.7% | 71.3% | 3.1% | 72.8% | 2.1% | 73.3% | 2.6% | 73.9% | 1.5% |
| Anglo | 539 | 81.8% | 67.7% | 34.7% | 28.4% | 53.1% | 8.3% | 57.7% | 3.0% | 59.7% | 2.0% | 60.3% | 1.5% | 61.2% | 0.4% | 61.4% | 0.4% |



Converting the percentages to counts and filling in the missing two numbers yields the graph below



Data Preparation and Computation of Survival Curves

| | Anglo | Cum | |
|---------|-----------|-----------|--|
| | Continued | Graduated | |
| Year 1 | 539 | | |
| Year 2 | 441 | | |
| Year 3 | 365 | 26 | |
| Year 4 | 312 | 187 | |
| Year 5 | 153 | 286 | |
| Year 6 | 45 | 311 | |
| Year 7 | 16 | 322 | |
| Year 8 | 11 | 325 | |
| Year 9 | 8 | 330 | |
| Year 10 | 2 | 331 | |
| Year 11 | 2 | | |



| | Anglo | Cum | Original | | | |
|---------|-----------|-----------|----------|------|------|------|
| | Continued | Graduated | Stay | Left | Grad | With |
| Year 1 | 539 | | 539 | 98 | 0 | 98 |
| Year 2 | 441 | | 441 | 76 | 0 | 76 |
| Year 3 | 365 | 26 | 365 | 53 | 26 | 27 |
| Year 4 | 312 | 187 | 312 | 159 | 161 | -2 |
| Year 5 | 153 | 286 | 153 | 108 | 99 | 9 |
| Year 6 | 45 | 311 | 45 | 29 | 25 | 4 |
| Year 7 | 16 | 322 | 16 | 5 | 11 | -6 |
| Year 8 | 11 | 325 | 11 | 3 | 3 | 0 |
| Year 9 | 8 | 330 | 8 | 6 | 5 | 1 |
| Year 10 | 2 | 331 | 2 | 0 | 1 | -1 |
| Year 11 | 2 | | 2 | 2 | | |

Final adjusted disaggregated data

| | Anglo | Cum | | Original | | | | Adjusted | Anglo | | | |
|---------|-----------|-----------|--|----------|------|------|------|----------|-------|------|------|--|
| | Continued | Graduated | | Stay | Left | Grad | With | Stay | Left | Grad | With | |
| Year 1 | 539 | | | 539 | 98 | 0 | 98 | 539 | 89 | 0 | 89 | |
| Year 2 | 441 | | | 441 | 76 | 0 | 76 | 450 | 76 | 0 | 76 | |
| Year 3 | 365 | 26 | | 365 | 53 | 26 | 27 | 374 | 53 | 26 | 27 | |
| Year 4 | 312 | 187 | | 312 | 159 | 161 | -2 | 321 | 161 | 161 | 0 | |
| Year 5 | 153 | 286 | | 153 | 108 | 99 | 9 | 160 | 108 | 99 | 9 | |
| Year 6 | 45 | 311 | | 45 | 29 | 25 | 4 | 52 | 29 | 25 | 4 | |
| Year 7 | 16 | 322 | | 16 | 5 | 11 | -6 | 23 | 11 | 11 | 0 | |
| Year 8 | 11 | 325 | | 11 | 3 | 3 | 0 | 12 | 3 | 3 | 0 | |
| Year 9 | 8 | 330 | | 8 | 6 | 5 | 1 | 9 | 6 | 5 | 1 | |
| Year 10 | 2 | 331 | | 2 | 0 | 1 | -1 | 3 | 1 | 1 | 0 | |
| Year 11 | 2 | | | 2 | 2 | | | 2 | 2 | | | |

Computing the probability of survival for each year

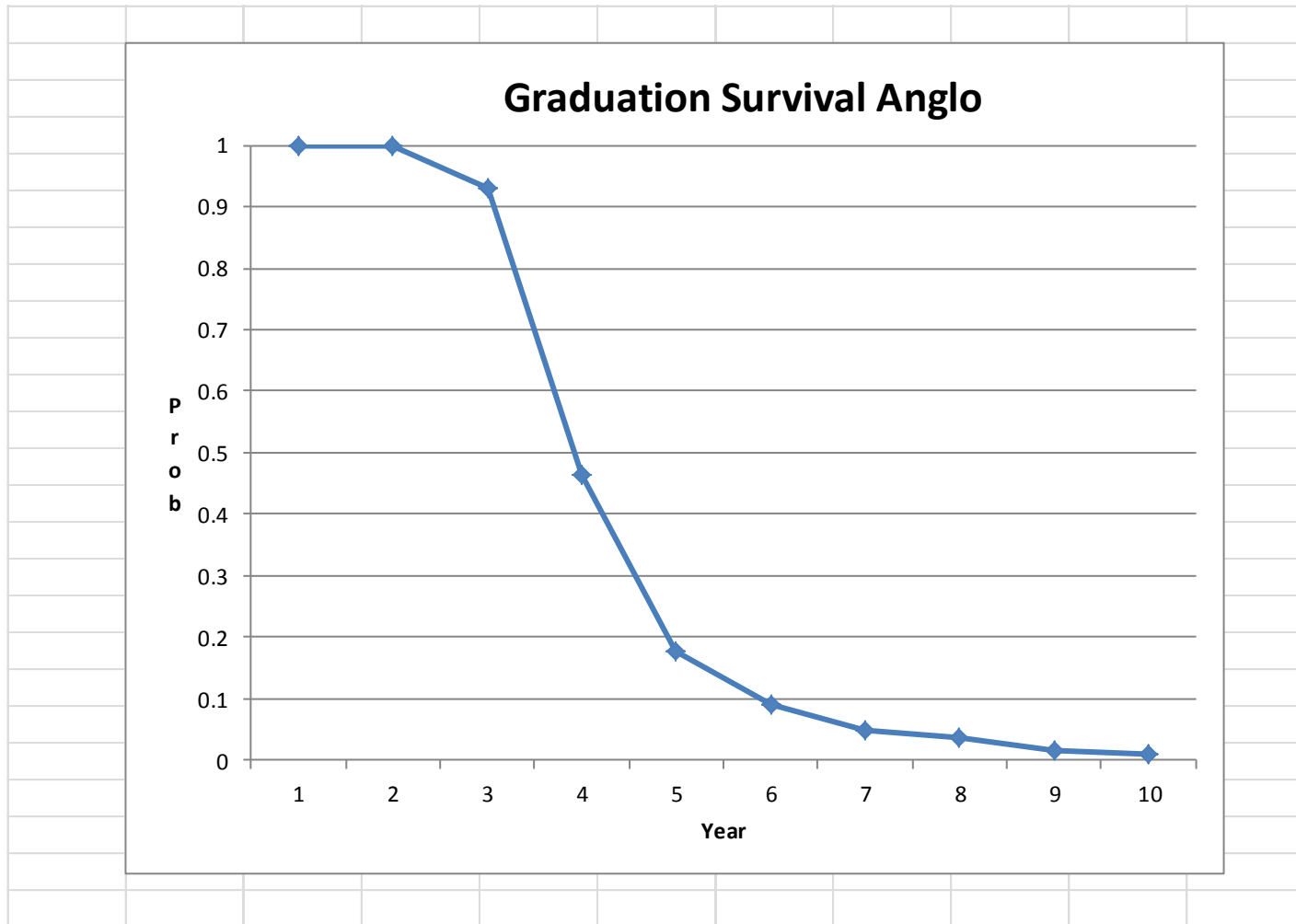
$$PROB(\text{Survive First Year}) = 1 - \frac{\text{number who graduate in first year}}{\text{number who enter first year}}$$

$$PROB(\text{Survive Second Year} \mid \text{Survive First Year}) = 1 - \frac{\text{number who graduate in second year}}{\text{number who enter second year}}$$

$$PROB(\text{Survive till Second Year}) = PROB(\text{Survive Second Year} \mid \text{Survive First Year}) PROB(\text{Survive First Year})$$

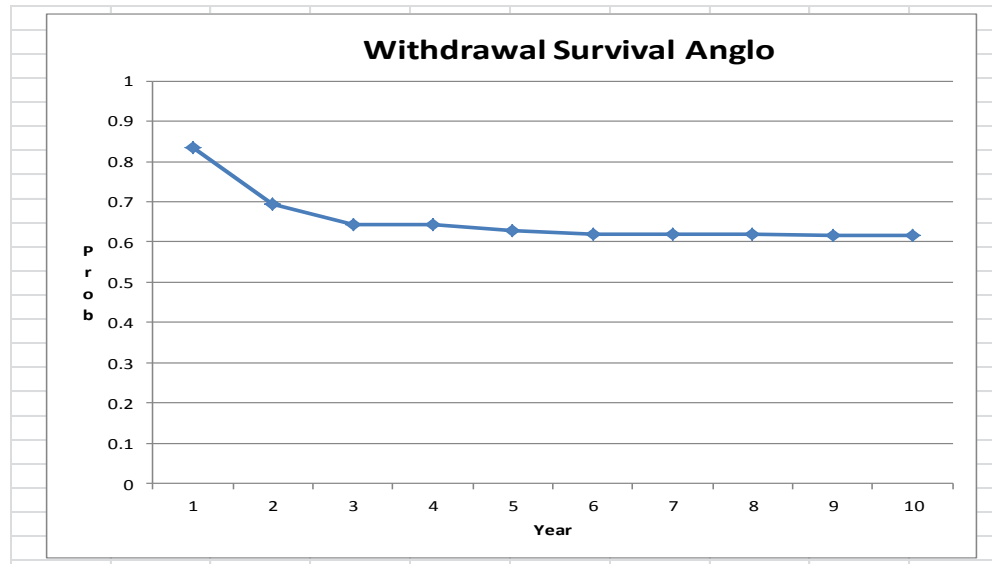
$$PROB(\text{Survive till Year } t+1) = PROB(\text{Survive Year } t+1 \mid \text{Survive till Year } t) PROB(\text{Survive till Year } t)$$

The Probability of Survival can be computed for all years and results in the following survival curve for Anglos:



Computation of the Withdrawal Survival Curve

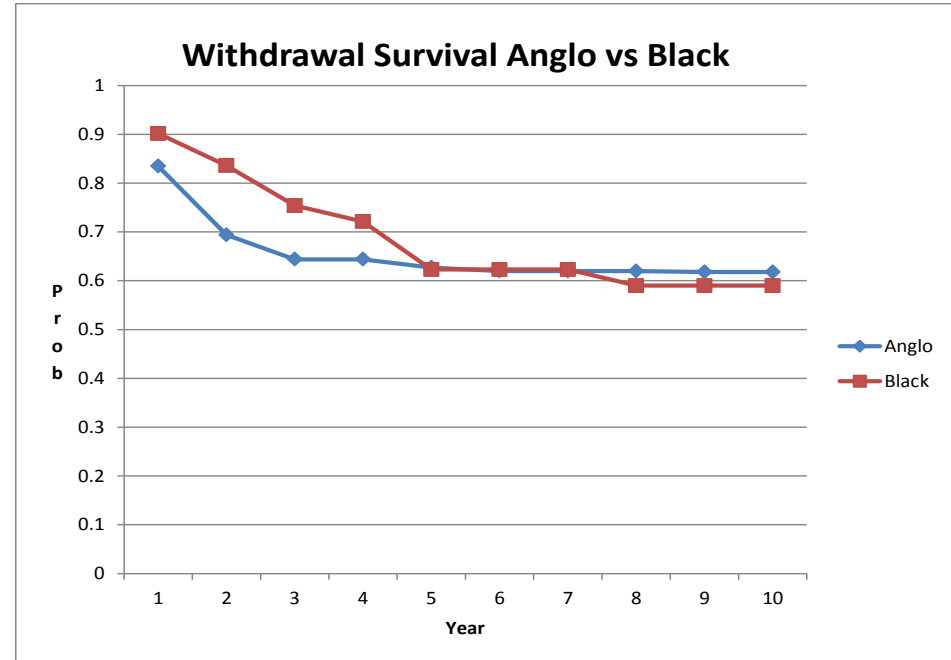
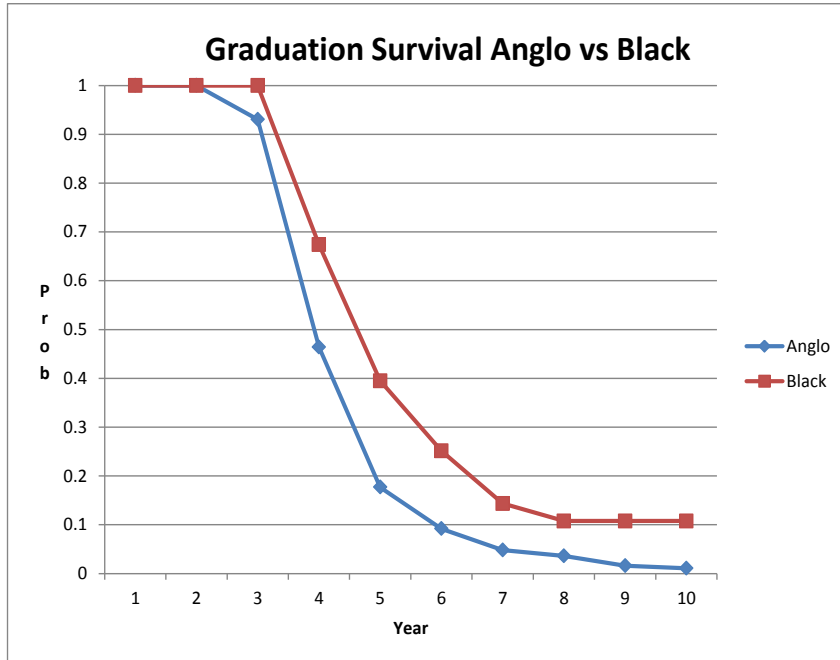
| Original Adjusted Stay | Anglo Left | Grad | With | | New Adjusted Stay | With |
|------------------------------|---------------|------|------|--|-------------------------|------|
| 539 | 89 | 0 | 89 | | 539 | 89 |
| 450 | 76 | 0 | 76 | | 450 | 76 |
| 374 | 53 | 26 | 27 | | 374 | 27 |
| 321 | 161 | 161 | 0 | | 347 | 0 |
| 160 | 108 | 99 | 9 | | 347 | 9 |
| 52 | 29 | 25 | 4 | | 338 | 4 |
| 23 | 11 | 11 | 0 | | 334 | 0 |
| 12 | 3 | 3 | 0 | | 334 | 0 |
| 9 | 6 | 5 | 1 | | 334 | 1 |
| 3 | 1 | 1 | 0 | | 333 | 0 |



To compare Anglo and Black (for example) survival one needs to first disaggregate the Black data for the UTD 2002 cohort and adjust the data for stop-outs (Shown below).

| | Black | Cum | | Original | Black | | | Adjusted | Black | | |
|---------|-----------|-----------|--|----------|-------|------|------|----------|-------|------|------|
| | Continued | Graduated | | Stay | Left | Grad | With | Stay | Left | Grad | With |
| Year 1 | 61 | | | 61 | 9 | 0 | 9 | 61 | 6 | 0 | 6 |
| Year 2 | 52 | | | 52 | 4 | 0 | 4 | 55 | 4 | 0 | 4 |
| Year 3 | 48 | 0 | | 48 | 5 | 0 | 5 | 51 | 5 | 0 | 5 |
| Year 4 | 43 | 15 | | 43 | 17 | 15 | 2 | 46 | 17 | 15 | 2 |
| Year 5 | 26 | 27 | | 26 | 18 | 12 | 6 | 29 | 18 | 12 | 6 |
| Year 6 | 8 | 31 | | 8 | 2 | 4 | -2 | 11 | 4 | 4 | 0 |
| Year 7 | 6 | 34 | | 6 | 3 | 3 | 0 | 7 | 3 | 3 | 0 |
| Year 8 | 3 | 35 | | 3 | 3 | 1 | 2 | 4 | 3 | 1 | 2 |
| Year 9 | 0 | 35 | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Year 10 | 0 | 35 | | 0 | -1 | 0 | -1 | 1 | 0 | 0 | 0 |
| Year 11 | 1 | | | 1 | 1 | | | 1 | | | |

Comparing Graduation and Withdrawal Survival



As can be seen, there is a strong suggestion that the Anglo and Black Graduation Survival curves differ, and also that there may also be differences in the Withdrawal Survival curves of the two ethnicities. We need to formalize these observations through the use of an appropriate statistical methodology.

Testing Whether the Survival Curves are the Same

| Year | Anglo Continue | Black Continue | Total Continue | Anglo Grad | Black Grad | Total Grad | Expected Anglo | Anglo Diff Obs - Exp | Variance | z-score |
|---------|-----------------------------------|----------------|---|------------|------------|------------|--|----------------------|----------|--|
| j | N_{1j} | N_{2j} | N_j | O_{1j} | O_{2j} | O_j | E_{1j} | $O_{1j} - E_{1j}$ | V_j | $\frac{(O_{1j} - E_{1j})}{\sqrt{V_j}}$ |
| 1 | 539 | 61 | 600 | 0 | 0 | 0 | 0 | 0 | 0 | NA |
| 2 | 450 | 55 | 505 | 0 | 0 | 0 | 0 | 0 | 0 | NA |
| 3 | 374 | 51 | 425 | 26 | 0 | 26 | 22.88 | 3.12 | 2.583713 | 1.94 |
| 4 | 321 | 46 | 367 | 161 | 15 | 176 | 153.9401 | 7.059946 | 10.06922 | 2.22 |
| 5 | 160 | 29 | 189 | 99 | 12 | 111 | 93.96825 | 5.031746 | 5.982106 | 2.06 |
| 6 | 52 | 11 | 63 | 25 | 4 | 29 | 23.93651 | 1.063492 | 2.291924 | 0.70 |
| 7 | 23 | 7 | 30 | 11 | 3 | 14 | 10.73333 | 0.266667 | 1.381762 | 0.23 |
| 8 | 12 | 4 | 16 | 3 | 1 | 4 | 3 | 0 | 0.6 | 0.00 |
| 9 | 9 | 1 | 10 | 5 | 0 | 5 | 4.5 | 0.5 | 0.25 | 1.00 |
| 10 | 3 | 1 | 4 | 1 | 0 | 1 | 0.75 | 0.25 | 0.1875 | 0.58 |
| | | | | | | | Sum | 17.29185 | 23.34622 | |
| | $E_{1j} = \frac{O_j}{N_j} N_{1j}$ | | $LR \text{ Test} = \frac{(\sum_j (O_{1j} - E_{1j}))^2}{\sum_j V_j}$ | | | | $V_j = \frac{O_j(N_{1j}/N_j)(1 - N_{1j}/N_j)(N_j - O_j)}{N_j - 1}$ | | | |
| | Chi-square | p-value | | | | | | | | |
| LR Test | 12.80756 | 0.000345 | reject hypothesis of no difference | | | | | | | |

In order to see how they are different one can capitalize on the fact that the z-score column is a normal approximation to the exact Fisher test.

| Year | Anglo Continue | Black Continue | Total Continue | Anglo With | Black With | Total With | Expected Anglo | Anglo Diff Obs - Exp | Variance | z-score | |
|------|----------------|----------------|----------------|------------|------------|------------|----------------|----------------------|----------|--|--------|
| j | N_{1j} | N_{2j} | N_j | O_{1j} | O_{2j} | O_j | E_{1j} | $O_{1j} - E_{1j}$ | V_j | $\frac{(O_{1j} - E_{1j})}{\sqrt{V_j}}$ | |
| 1 | 539 | 61 | 600 | 89 | 6 | 95 | 85.34167 | 3.658333 | 7.31483 | 1.35 | |
| 2 | 450 | 55 | 505 | 76 | 4 | 80 | 71.28713 | 4.712871 | 6.546977 | 1.84 | ignore |
| 3 | 374 | 51 | 425 | 27 | 5 | 32 | 28.16 | -1.16 | 3.132136 | -0.66 | |
| 4 | 347 | 46 | 393 | 0 | 2 | 2 | 1.765903 | -1.7659 | 0.206169 | -3.89 | ignore |
| 5 | 347 | 44 | 391 | 9 | 6 | 15 | 13.31202 | -4.31202 | 1.444253 | -3.59 | ignore |
| 6 | 338 | 38 | 376 | 4 | 0 | 4 | 3.595745 | 0.404255 | 0.360493 | 0.67 | |
| 7 | 334 | 38 | 372 | 0 | 0 | 0 | 0 | 0 | 0 | NA | |
| 8 | 334 | 38 | 372 | 0 | 2 | 2 | 1.795699 | -1.7957 | 0.182937 | -4.20 | ignore |
| 9 | 334 | 36 | 370 | 1 | 0 | 1 | 0.902703 | 0.097297 | 0.087831 | 0.33 | |
| 10 | 333 | 36 | 369 | 0 | 0 | 0 | 0 | 0 | 0 | NA | |
| | | | | | | | Sum | -0.16087 | 19.27562 | | |

$$E_{1j} = \frac{O_j}{N_j} N_{1j}$$

$$LR \text{ Test} = \frac{(\sum_j (O_{1j} - E_{1j}))^2}{\sum_j V_j}$$

$$V_j = \frac{O_j (N_{1j} / N_j) (1 - N_{1j} / N_j) (N_j - O_j)}{N_j - 1}$$

| | | | | |
|---------|----------|----------|----------------|-----------------------------------|
| | | | p-value | |
| LR Test | 0.001343 | 0.970772 | | Accept the null hypothesis |

Selected Summary of Results

2002 UTD Freshman Cohort statistically significant results:

- 1. Females graduated at higher rates than males in the 3rd and 4th years***
- 2. Males withdrew at higher rates than females in the 3rd and 4th years***
- 3. Anglos graduated at higher rates than Blacks in the 3rd, 4th and 5th years***
- 4. Asians graduated at a higher rate than Blacks in the 4th year***
- 5. Hispanics graduated at a higher rate than Blacks in the 5th year***
- 6. Anglos withdrew at a higher rate than Asians in the 1st and 3rd years but at a lower rate in the 4th year***
- 7. Blacks withdrew at a higher rate than Asians in the 3rd and 5th years***
- 8. Hispanics withdrew at a higher rate than Asians in the 1st and 3rd years***

Series 1 (Females) and Series 2 (Males) data in Excel –read into SAS

| | A | B | C | D | E | F | G |
|----|-----|-----|------|---|---|---|---|
| 1 | R1 | R2 | Year | | | | |
| 2 | 404 | 0 | 1 | | | | |
| 3 | 338 | 0 | 2 | | | | |
| 4 | 288 | 27 | 3 | | | | |
| 5 | 252 | 183 | 4 | | | | |
| 6 | 97 | 240 | 5 | | | | |
| 7 | 28 | 258 | 6 | | | | |
| 8 | 12 | 266 | 7 | | | | |
| 9 | 5 | 270 | 8 | | | | |
| 10 | 3 | 272 | 9 | | | | |
| 11 | 2 | 273 | 10 | | | | |
| 12 | 2 | 0 | 11 | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |

| | A | B | C | D | E | F | G |
|----|-----|-----|------|---|---|---|---|
| 1 | R3 | R4 | Year | | | | |
| 2 | 501 | 0 | 1 | | | | |
| 3 | 419 | 0 | 2 | | | | |
| 4 | 357 | 13 | 3 | | | | |
| 5 | 312 | 140 | 4 | | | | |
| 6 | 176 | 246 | 5 | | | | |
| 7 | 58 | 273 | 6 | | | | |
| 8 | 31 | 289 | 7 | | | | |
| 9 | 16 | 296 | 8 | | | | |
| 10 | 11 | 300 | 9 | | | | |
| 11 | 7 | 302 | 10 | | | | |
| 12 | 4 | 0 | 11 | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |

SAS Output – Original Data (Females)

Series 1 Information

Female

| Year | Cum Stay | Cum Grad |
|------|----------|----------|
| 1 | 404 | 0 |
| 2 | 338 | 0 |
| 3 | 288 | 27 |
| 4 | 252 | 183 |
| 5 | 97 | 240 |
| 6 | 28 | 258 |
| 7 | 12 | 266 |
| 8 | 5 | 270 |
| 9 | 3 | 272 |
| 10 | 2 | 273 |
| 11 | 2 | 0 |

SAS Output Disaggregated Data

Diaggregated Matrix

Female

| Year | Stay | Left | Grad | With |
|------|------|------|------|------|
| 1 | 404 | 66 | 0 | 66 |
| 2 | 338 | 50 | 0 | 50 |
| 3 | 288 | 36 | 27 | 9 |
| 4 | 252 | 155 | 156 | -1 |
| 5 | 97 | 69 | 57 | 12 |
| 6 | 28 | 16 | 18 | -2 |
| 7 | 12 | 7 | 8 | -1 |
| 8 | 5 | 2 | 4 | -2 |
| 9 | 3 | 1 | 2 | -1 |
| 10 | 2 | 0 | 1 | -1 |
| 11 | 2 | 0 | 0 | 0 |

Disaggregated Matrix Adjusted for Stop Outs

Female

| Year | Stay | Left | Grad | With |
|------|------|------|------|------|
| 1 | 404 | 58 | 0 | 58 |
| 2 | 346 | 50 | 0 | 50 |
| 3 | 296 | 36 | 27 | 9 |
| 4 | 260 | 156 | 156 | 0 |
| 5 | 104 | 69 | 57 | 12 |
| 6 | 35 | 18 | 18 | 0 |
| 7 | 17 | 8 | 8 | 0 |
| 8 | 9 | 4 | 4 | 0 |
| 9 | 5 | 2 | 2 | 0 |
| 10 | 3 | 1 | 1 | 0 |
| 11 | 2 | 0 | 0 | 0 |

Outputs the graduation and withdrawal data for analysis

Final Series for Analysis. Graduation Curves.

Female and Male

| Year | Female_Survival | Female_Graduates | Male_Survival | Male_Graduates |
|------|-----------------|------------------|---------------|----------------|
| 1 | 404 | 0 | 501 | 0 |
| 2 | 346 | 0 | 422 | 0 |
| 3 | 296 | 27 | 360 | 13 |
| 4 | 260 | 156 | 315 | 127 |
| 5 | 104 | 57 | 179 | 106 |
| 6 | 35 | 18 | 61 | 27 |
| 7 | 17 | 8 | 34 | 16 |
| 8 | 9 | 4 | 18 | 7 |
| 9 | 5 | 2 | 11 | 4 |
| 10 | 3 | 1 | 7 | 2 |
| 11 | 2 | 0 | 4 | 0 |

Final Series for Analysis. Withdrawal Curves.

Female and Male

| Year | Female_Survival | Female_Withdraws | Male_Survival | Male_Withdraws |
|------|-----------------|------------------|---------------|----------------|
| 1 | 404 | 58 | 501 | 79 |
| 2 | 346 | 50 | 422 | 62 |
| 3 | 296 | 9 | 360 | 32 |
| 4 | 287 | 0 | 328 | 9 |
| 5 | 287 | 12 | 319 | 12 |
| 6 | 275 | 0 | 307 | 0 |
| 7 | 275 | 0 | 307 | 0 |
| 8 | 275 | 0 | 307 | 0 |
| 9 | 275 | 0 | 307 | 0 |
| 10 | 275 | 0 | 307 | 1 |
| 11 | 275 | 0 | 306 | 0 |

SAS Output: Computation of the Log Rank Test for the Graduation Survival Curve

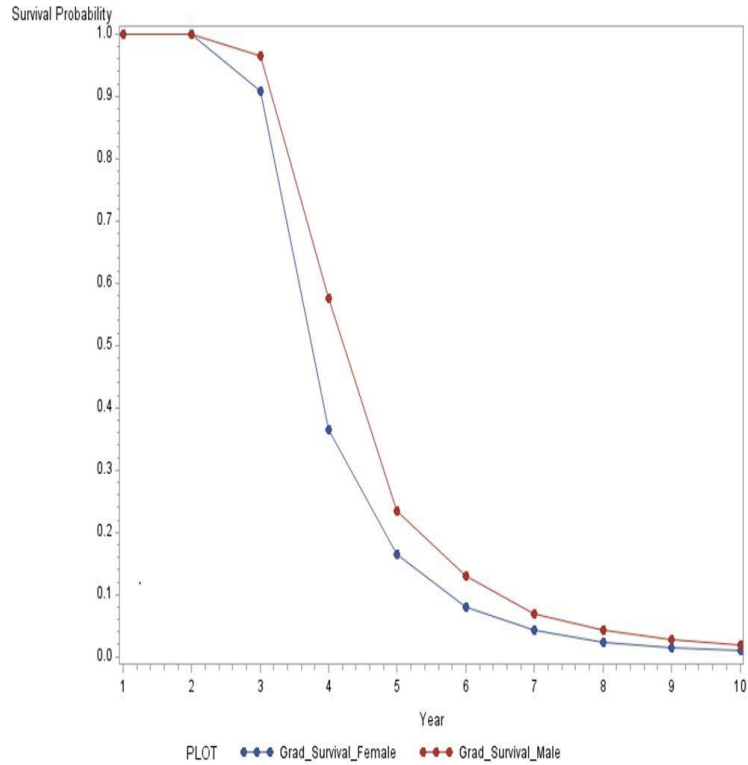
Test of Equality of Graduation Survival Curves.

| Year | Obs | Exp | Var | Zscore |
|------|-------|-------|-------|--------|
| 1 | 0.00 | 00.00 | 00.00 | 00.00 |
| 2 | 0.00 | 00.00 | 00.00 | 00.00 |
| 3 | 27.00 | 18.05 | 09.32 | 02.93 |
| 4 | 156.0 | 128.0 | 35.66 | 04.69 |
| 5 | 57.00 | 59.90 | 16.12 | -0.72 |
| 6 | 18.00 | 16.41 | 05.60 | 00.67 |
| 7 | 8.00 | 08.00 | 02.88 | 00.00 |
| 8 | 4.00 | 03.67 | 01.50 | 00.27 |
| 9 | 2.00 | 01.88 | 00.86 | 00.13 |
| 10 | 1.00 | 00.90 | 00.49 | 00.14 |

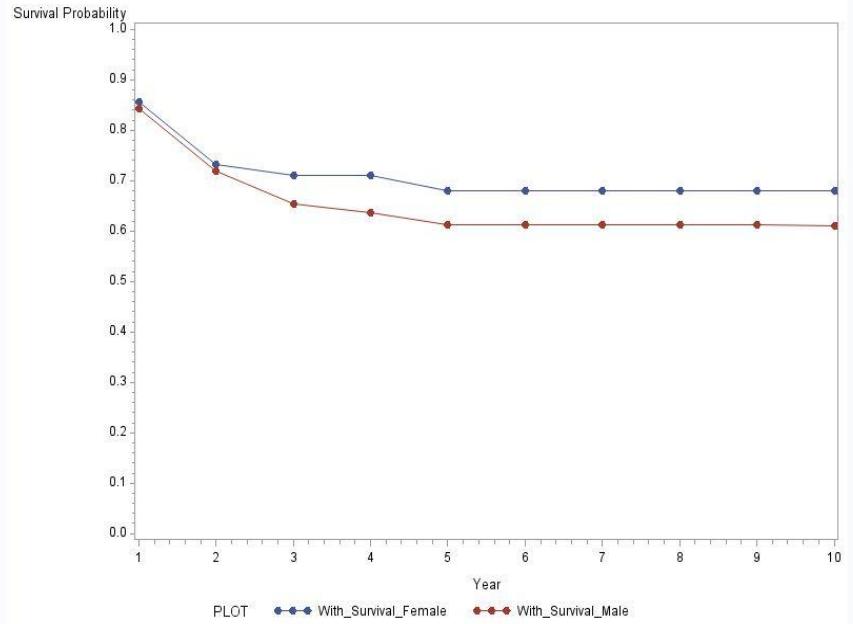
Log Rank Test
18.129604
Pvalue
0.0000206

Output plots Graduation Survival & Withdrawal Curves

Graduation Survival

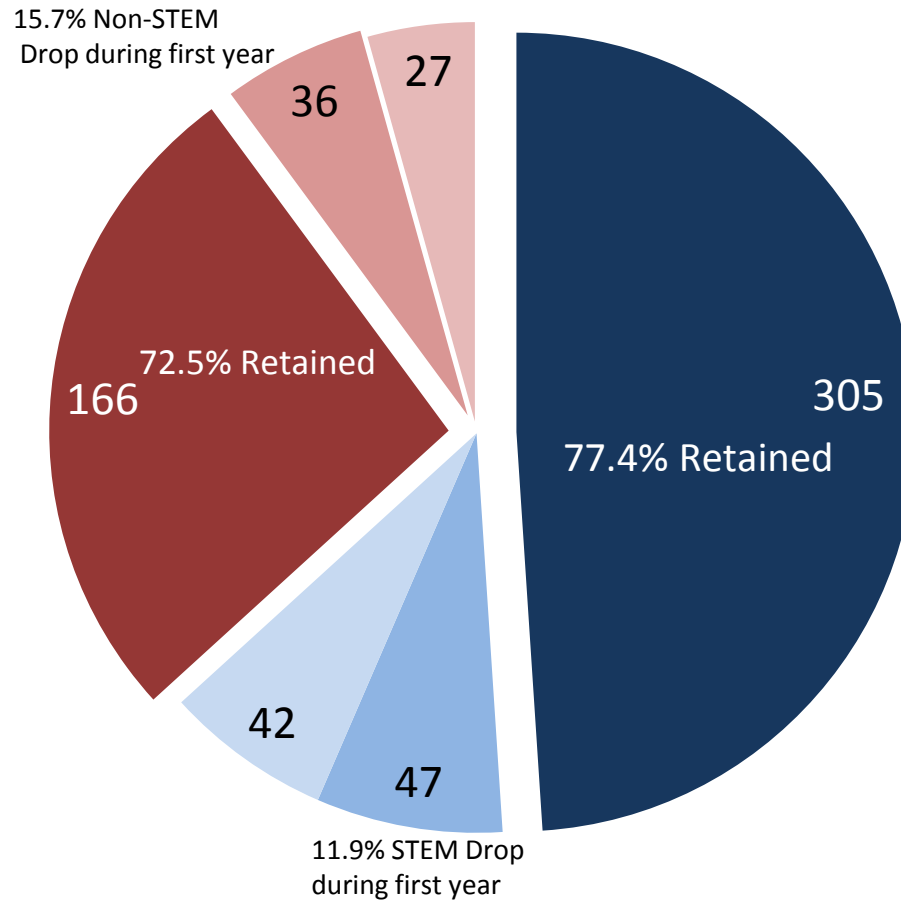


Withdrawal Survival



Derivative Analysis Examples

Males



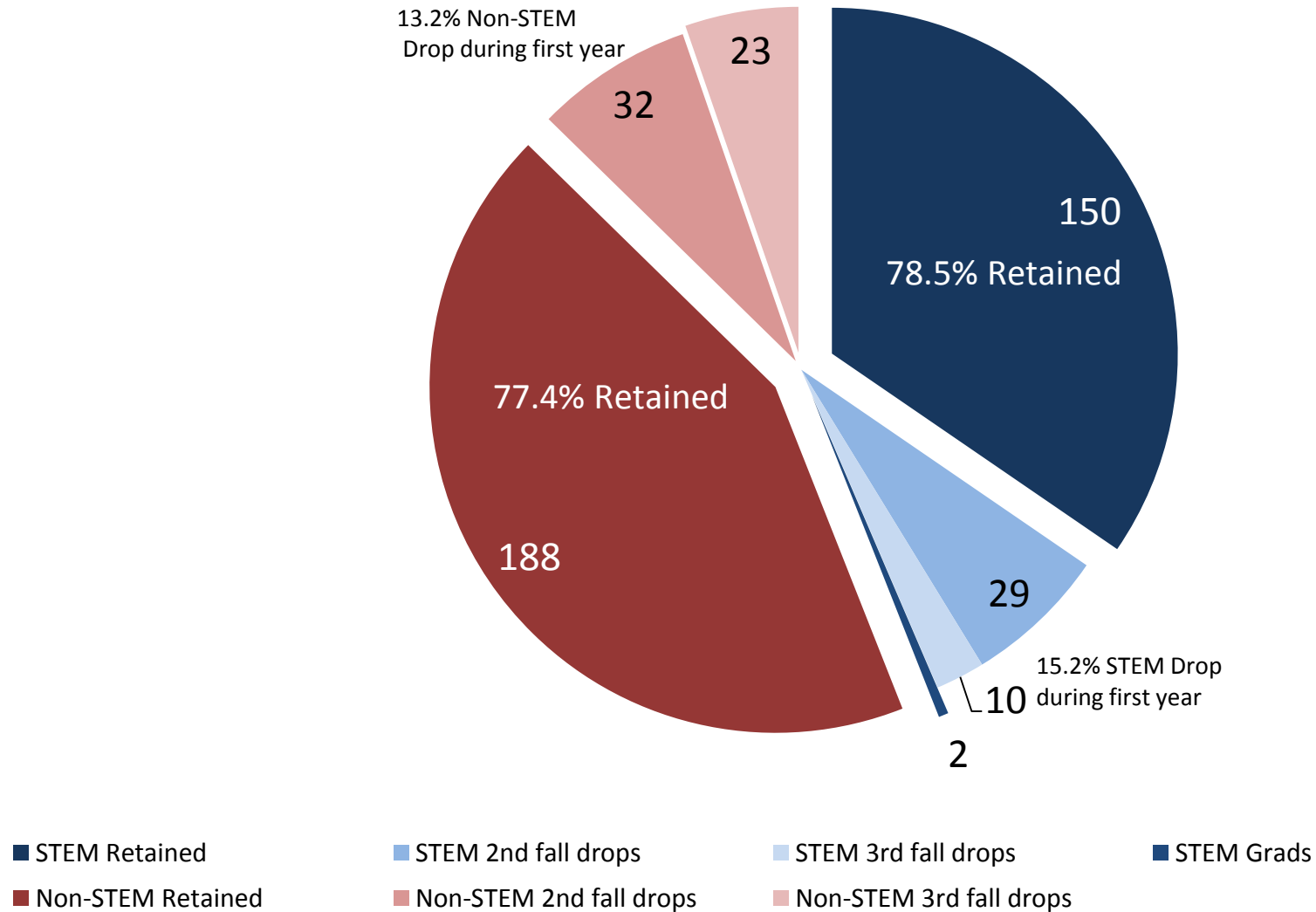
■ STEM Retained
■ Non-STEM Retained

■ STEM 2nd fall drops
■ Non-STEM 2nd fall drops

■ STEM 3rd fall drops
■ Non-STEM 3rd fall drops

Derivative Analysis Examples

Females



Derivative Analysis Examples

| FTIC Fall 2007 Cohort - Males in Selected STEM Majors | | | | | | | |
|---|--------------|-----------|-------|---------------------------|----------------------------------|-----------------------------------|--|
| Beginning STEM Major | Not Enrolled | Enrolled* | Total | 2nd Fall Drop Out Percent | 2nd to 3rd Fall Drop Out Percent | Cum. Drop Out By 3rd Fall Percent | |
| Computer Engineering | 15 | 52 | 67 | 10.4% | 11.9% | 22.4% | |
| Computer Science | 27 | 76 | 103 | 13.6% | 12.6% | 26.2% | |
| Electrical Engineering | 14 | 56 | 70 | 14.3% | 5.7% | 20.0% | |
| Neuroscience | 3 | 16 | 19 | 10.5% | 5.3% | 15.8% | |
| Biology | 13 | 36 | 49 | 18.4% | 8.2% | 26.5% | |

| FTIC Fall 2007 Cohort - Females in Selected STEM Majors | | | | | | | |
|---|--------------|-----------|-------|---------------------------|----------------------------------|-----------------------------------|--|
| Beginning STEM Major | Not Enrolled | Enrolled* | Total | 2nd Fall Drop Out Percent | 2nd to 3rd Fall Drop Out Percent | Cum. Drop Out By 3rd Fall Percent | |
| Computer Engineering | 1 | 5 | 6 | 16.7% | 0.0% | 16.7% | |
| Computer Science | 2 | 9 | 11 | 9.1% | 9.1% | 18.2% | |
| Electrical Engineering | 2 | 11 | 13 | 7.7% | 7.7% | 15.4% | |
| Neuroscience | 2 | 23 | 25 | 4.0% | 4.0% | 8.0% | |
| Biology | 22 | 55 | 77 | 23.4% | 5.2% | 28.6% | |

Male-Female variations in survival by selected majors

Derivative Analysis Examples

| Graduation in 6 Years: Gender by 1st Semester GPA | | | | | | | | | |
|---|--------|----------|--------|----------|--------|----------|--------|--------|--------|
| Not Graduated in 6 years (N = 387) | | | | | | | | | |
| | 0-0.49 | 0.5-0.99 | 1-1.49 | 1.5-1.99 | 2-2.49 | 2.5-2.99 | 3-3.49 | 3.5-4 | Total |
| Female | 6 | 2 | 12 | 8 | 24 | 24 | 30 | 23 | 129 |
| Male | 29 | 15 | 13 | 30 | 46 | 47 | 57 | 21 | 258 |
| Total | 35 | 17 | 25 | 38 | 70 | 71 | 87 | 44 | 387 |
| Graduated in 6 years (N = 670) | | | | | | | | | |
| | 0-0.49 | 0.5-0.99 | 1-1.49 | 1.5-1.99 | 2-2.49 | 2.5-2.99 | 3-3.49 | 3.5-4 | Total |
| Female | 0 | 0 | 0 | 1 | 14 | 33 | 98 | 159 | 305 |
| Male | 1 | 1 | 2 | 7 | 26 | 54 | 134 | 140 | 365 |
| Total | 1 | 1 | 2 | 8 | 40 | 87 | 232 | 299 | 670 |
| Graduation Rate | | | | | | | | | |
| | 0-0.49 | 0.5-0.99 | 1-1.49 | 1.5-1.99 | 2-2.49 | 2.5-2.99 | 3-3.49 | 3.5-4 | Total |
| Female | 0.00% | 0.00% | 0.00% | 11.11% | 36.84% | 57.89% | 76.56% | 87.36% | 70.28% |
| Male | 3.33% | 6.25% | 13.33% | 18.92% | 36.11% | 53.47% | 70.16% | 86.96% | 58.59% |
| Total | 2.78% | 5.56% | 7.41% | 17.39% | 36.36% | 55.06% | 72.73% | 87.17% | 63.39% |

- 29 or 6.7% of females had first semester GPAs below 2.0
- 98 or 15% of males had first semester GPAs below 2.0
- 257 or 59% of females had first semester GPAs above a 3.0
- 274 or 44% of males had first semester GPAs above a 3.0

Thank you for your time.

Now we would be happy to answer your questions.

Contacts:

Ms. Anna Moses

Assistant Director

Office of Strategic Planning and Analysis

The University of Texas at Dallas

Phone: (972) 883-4188

Anna.moses@utdallas.edu