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AP Statistics  
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## ANALYSIS PDF

The purpose of this study was to find out if there was some sort of relationship between the selectivity of a school and whether that would lead to a higher a future salary. For this study I needed to compare school acceptance rate and the average future salary of alumni. For my data I decided to look at alumni who graduated with bachelor's degrees and specifically looked at mid-career salary to reduce variability. Since there are several thousand schools in America I took the top 10 schools who averaged the highest mid-career salaries, the bottom 10 schools, and the middle 10 schools to not only get several data points, but to also have my data cover a wide variety of schools. My population of interest would be all colleges across America. I then looked up the acceptance rate for each school and compared the acceptance rate to the mid-career salary graphically (<https://www.payscale.com/college-salary-report/all-bachelors>).

## Regression Analysis: Mid Career Salary \$ versus Acceptance Rate %

The regression equation is

$$\text{Mid Career Salary \$} = 144204 + 934.7 \text{ Acceptance Rate \%}$$

### Model Summary

S	R-sq	R-sq(adj)
26327.2	55.82%	54.24%

### Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	2.45192E+10	2.45192E+10	35.38	0.000
Error	28	1.94074E+10	6.93122E+08		
Total	29	4.39266E+10			

Acceptance Rate, %	Mid Career Salary, \$
13	157,400
8.3	150,400
9	149,800
5	143,100
8.8	143,100
65.9	142,600
5.6	142,600
10	141,900
7.1	141,300

68.3	140,100
67.1	83,600
80.3	83,500
73	83,400
72.4	83,300
82.4	83,200
71.1	83,100
74.2	83,000
71.9	82,800
57.6	82,800
49.7	82,700
57.8	51,400
52.2	51,500
78	51,800
98	52,400
42.1	53,700
100	55,000
68	55,100
72	55,400
41.3	55,600
100	55,600

## Descriptive Statistics: Acceptance Rate %, Mid Career Salary \$

### Statistics

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Acceptance Rate %	30	0	53.67	5.68	31.11	5.00	12.25	66.50	73.30	100.00
Mid Career Salary \$	30	0	94040	7106	38919	51400	55325	83150	142075	157400