

Touch-down Faces

1-

Facts

	0-2	3 or more	Total
0-2	29	22	51
3 or more	18	2	20
Total	47	24	

A) Compute the correlation coefficient.

$$R = \frac{Ad + Bc}{\sqrt{(A+B)(C+D)(A+C)(B+D)}} = \frac{29 \times 2 - 18 \times 22}{\sqrt{51 \times 20 \times 47 \times 24}} = -0.313$$

$$ME = 2 \sqrt{\frac{1-R^2}{n}} = 2 \sqrt{\frac{1-(-0.313)^2}{71}} = 0.225$$

Since the ME is less than R in magnitude, we conclude that R is statistically significant.

B)

$$\chi^2 = \frac{ad}{bc} = \frac{29 \times 2}{22 \times 18} \approx 0.147$$

Inference: The odds of having 3 or more touch-down faces is about 4 times greater if he is

Sacked less than three times than if he's sacked three or more times.

c)

$$\theta = \frac{\alpha - 1}{\alpha + 1} = \frac{0.147 - 1}{0.147 + 1} = -0.744$$

Negative Relationship between Sacks & Turnover
percentage.