

Charles Hwang – CJC 206

Textbook Problems

4.

$$df = (r - 1)(c - 1) = (3 - 1)(3 - 1) = (2)(2) = 4$$

$\alpha = .05$

$$\chi^2 = 12.26 \quad \text{Critical value: } 9.488$$

We reject H_0 at the $\alpha = .05$ level.

5.

$$df = (r - 1)(c - 1) = (4 - 1)(5 - 1) = (3)(4) = 12$$

$\alpha = .05$

$$\chi^2 = 6.15 \quad \text{Critical value: } 21.026$$

We fail to reject H_0 at the $\alpha = .05$ level.

Assignment 11_Chi-square.xlsx Problems

1.

- a. H_0 : There is no association between education level and sex.
- b. H_A : There is an association between education level and sex.
- c. $\chi^2 = 76.06$ p-value < 0.01
- d. The association between education level and sex is weak to moderate ($\phi = .401$, $.4 < \phi < .6$).
- e. We reject H_0 at the $\alpha = .05$ level. There is sufficient evidence ($p < .01$) that there is an association between education level and gender.

2.

- a. H_0 : There is no association between job type and minority status.
- b. H_A : There is an association between job type and minority status.
- c. $\chi^2 = 26.17$ p-value < 0.01
- d. The association between job type and racial minority status is weak ($V = .235$, $.2 < V < .4$).
- e. We reject H_0 at the $\alpha = .05$ level. There is sufficient evidence ($p < .01$) that there is an association between job type and racial minority status.