Universidad del sureste

Campus Frontera Comalapa

Licenciatura en psicología

Ejercicios

MATERIA: ESTADISITCA INFERENCIAL

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4° cuatrimestre

Frontera comalapa, Chiapas a
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- Intervalo de confianza para varianzas

*Ejercicio 3:

- Datos

$n = 12$ $\quad nc = 95\%$

$S = 0.1527$ $\quad ns = 5\%$ $\quad \alpha = 5\% = 0.05$

$x^2 = \frac{0.05}{2}, 12-1 = x^2\ 0.025, 11 = 27.9$

$x^2 = 0.025, 12-1 = x^2\ 0.975, 11 = 3.82$

$$\frac{(12-1)(0.1527)}{27.9} \leq J^2 \leq \frac{(12-1)(0.1527)}{3.82}$$

$$0.076 < J^2 < 0.434$$

$$\frac{(n-1)s^2}{x^2_{\frac{\alpha}{2}, n-1}} < \sigma^2 > \frac{(n-1)s^2}{x^2_{1-\frac{\alpha}{2}, n-1}}$$

- Intervalo de confianza para razones de dos varianzas

* datos

$n_1 = 27 \quad n_2 = 27 \quad X = 5\% = 0.05$

$s_1 = 12 \quad s_2 = 10$

$g.L.N = n_1 - 1 = 27 - 1 = 20$

$g.L.N = n_2 - 1 = 27 - 1 = 20$

$f = \frac{X}{2} = \frac{0.05}{2} = 0.025$ $\quad F = 0.975$

$F = \frac{X}{2} = 1 - 0.025 = 0.975$

$\frac{20}{20} > 2.464 \quad \frac{20}{20} > 2.464 = \frac{1}{2.464} = 0.405$

$\frac{(12)/(01)}{2.464} \leq \frac{J_1^2}{J_2^2} \leq \frac{(12)/(10)}{0.405}$

$0.487 < \frac{J_1^2}{J_2^2} < 2.962$

- población infinita

$$n = \frac{Z^2 p(1-p)}{e^2}$$

$Z = 99\% = 2.575$ $1-p = 1-0.05 = 0.95$

$p = 0.05$ $e = 77\% = 0.77$

$$n = \frac{(2.575)^2 (0.05)(0.95)}{(0.77)^2}$$

$$n = \frac{0.314}{0.0121} = 26.16$$