

W11 作業

A107270047 企管 = 甲杯羽羽羽

例 7.6

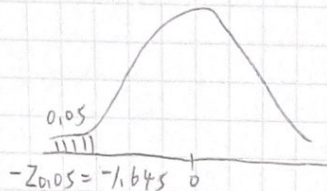
(1) $H_0: \mu_1 - \mu_2 \geq 0, H_1: \mu_1 - \mu_2 < 0$

(2) $\alpha = 0.05$

(3) 棄卻域 $C = \{Z < -Z_{\alpha}\} = \{Z < -1.645\}$

(4) $Z = \frac{6.98 - 7.2}{\sqrt{\frac{0.78^2}{200} + \frac{0.75^2}{180}}} = -2.801$

\therefore 男生平均睡眠時間 < 女生



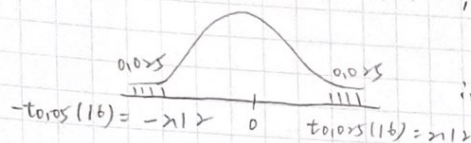
例 7.7

(1) $H_0: \mu_1 - \mu_2 = 0, H_1: \mu_1 - \mu_2 \neq 0$

(2) $\alpha = 0.05$

(3) 棄卻域 $C = \{|T| > t_{\frac{\alpha}{2}}(n_1 + n_2 - 2)\} = \{|T| > t_{0.025}(16)\} = \{|T| > 2.12\}$

(4) $S_p = \sqrt{\frac{9 \times 0.655^2 + 7 \times 0.627^2}{10 + 8 - 2}} = 0.642, T = \frac{7.728 - 7.546}{0.642 \sqrt{\frac{1}{10} + \frac{1}{8}}} = 0.598$



\therefore 2 種嬰兒奶粉對體重無明顯差異

例 7.8

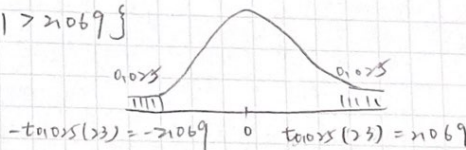
(1) $H_0: \mu_1 - \mu_2 = 0, H_1: \mu_1 - \mu_2 \neq 0$

(2) $\alpha = 0.05$

(3) $v = \frac{\left(\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}\right)^2}{\frac{\left(\frac{S_1^2}{n_1}\right)^2}{n_1 - 1} + \frac{\left(\frac{S_2^2}{n_2}\right)^2}{n_2 - 1}} = \frac{\left(\frac{4.8^2}{12} + \frac{8.54^2}{15}\right)^2}{\frac{(4.8^2)^2}{12 - 1} + \frac{(8.54^2)^2}{15 - 1}} = 22.773 \approx 23$

棄卻域 $C = \{|T| > t_{0.025}(23)\} = \{|T| > 2.069\}$

(4) $T = \frac{78.25 - 72.6}{\sqrt{\frac{4.8^2}{12} + \frac{8.54^2}{15}}} = 2.167$



\therefore 有顯著差異

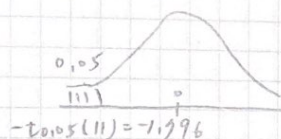
例 7.9

(1) $H_0: \mu_1 - \mu_2 \geq 0, H_1: \mu_1 - \mu_2 < 0$

(2) $\alpha = 0.05$

(3) 棄卻域 $C = \{T < -t_{0.05}(11)\} = \{T < -1.796\}$

(4) $T = \frac{\bar{d} - d_0}{\frac{s_d}{\sqrt{n}}} = \frac{-3.5 - 0}{\frac{5.231}{\sqrt{12}}} = -2.318$



\therefore 進修後有較好的工作表現