

## Where

- $s_x = 3.62771$  : Sample standard deviation of group  $A$
- $s_y = 3.29539$  : Sample standard deviation of group  $B$
- $\mu_0 = 0$  : The hypothesized difference in population means
- $\bar{x} = 5.53125$  : Sample mean of group  $x$
- $\bar{y} = 6.33333$  : Sample mean of group  $y$
- $n = 32$  : Sample size of group  $x$
- $m = 39$  : Sample size of group  $y$

$$\begin{aligned}s_p^2 &= \frac{(n-1)s_x^2 + (m-1)s_y^2}{n+m-2} \\&= \frac{(32-1) \cdot 3.62771^2 + (39-1) \cdot 3.29539^2}{32+39-2} \left( \frac{1}{32} + \frac{1}{39} \right) \\&= 0.82257\end{aligned}$$

$$\begin{aligned}t &= \frac{\bar{x} - \bar{y} - \mu_0}{s_p} \\&= \frac{5.53125 - 6.33333 - 0}{0.82257} \\&= -0.9751\end{aligned}$$

$$\begin{aligned}df &= n + m - 2 \\&= 32 + 39 - 2 \\&= 69\end{aligned}$$

$$\therefore \text{p-value} = P(T \leq t) = P(T \leq -0.9751) = 0.1665$$