

$$H_0: \mu_1 = \mu_2 = \dots = \mu_g$$

H_1 : at least one $\mu_i \neq \mu_j$ for $i \neq j$.

Test statistic:

$$\frac{\text{Treatment SS} / (g-1)}{\text{Residual SS} / (N-g)}$$

$$= \frac{\text{Mean Sq. treatment}}{\text{Mean Sq. residual}}$$

> 1

if H_0
false

$$\sim F_{g-1, N-g}$$

$$\text{Total SS} = \text{Treatment SS} + \text{Residual SS}$$

	df	SS	MS	F
Treatment	$(g-1)$	Treat. SS	$MST = \frac{\text{Treat SS}}{g-1}$	$F = \frac{MST}{MSR}$
Residual	$(N-g)$	Resid. SS	$MSR = \frac{\text{Resid SS}}{N-g}$	
Total	$N-1$	Total SS = Treatment SS + Resid SS		

$$p\text{-value} = P(F_{g-1, N-g} \geq F)$$