

Appendix 5 Comparison t-Test Formula

Formula for Unpaired Samples t-Test in Case of Unequal Variance

$$t = \frac{|p^{(1)} - p^{(2)}|}{\sqrt{\frac{(n^{(1)} - 1) \cdot se(p^{(1)})^2}{n^{(1)}} + \frac{(n^{(2)} - 1) \cdot se(p^{(2)})^2}{n^{(2)}}}}$$

Formula for the Degree of Freedom in Case of Unequal Variance

$$df = \left\lfloor \frac{\left(\frac{(n^{(1)} - 1) \cdot se(p^{(1)})^2}{n^{(1)}} + \frac{(n^{(2)} - 1) \cdot se(p^{(2)})^2}{n^{(2)}} \right)^2}{\frac{(n^{(1)} - 1) \cdot se(p^{(1)})^4}{n^{(1)2}} + \frac{(n^{(2)} - 1) \cdot se(p^{(2)})^4}{n^{(2)2}}} - 2 \right\rfloor$$

$n^{(1)}$: The number of observation in Group 1

$n^{(2)}$: The number of observation in Group 2

$p^{(1)}$: The path coefficients of Group 1

$p^{(2)}$: The path coefficients of Group 2

$se(p^{(1)})$: The standard error of the parameter estimates of Group 1

$se(p^{(2)})$: The standard error of the parameter estimates of Group 2

Source: Hair et al. (2014)