Inference About?	1 or 2?	Model & df	Parameter	Statistic	Conditions	Confidence Interval	Test Statistic

Inference about?	One group or two?	Procedure	Model	Parameter	Estimate	SE
Proportions	One sample	1-Proportion z-Interval	z	p	$\hat{p}$	$\sqrt{\frac{\hat{p}\hat{q}}{n}}$
		1-Proportion z-Test				$\sqrt{\frac{p_0 q_0}{n}}$
	Two independent groups	2-Proportion z-Interval	z	$p_1 - p_2$	$\hat{p}_1 - \hat{p}_2$	$\sqrt{\frac{\hat{p}_1\hat{q}_1}{n_1} + \frac{\hat{p}_2\hat{q}_2}{n_2}}$
		2-Proportion z-Test				$\sqrt{\frac{\hat{p}\hat{q}}{n_1} + \frac{\hat{p}\hat{q}}{n_2}}, \hat{p} = \frac{y_1 + y_2}{n_1 + n_2}$
Means	One sample	t-Interval t-Test	t $\text{df} = n - 1$	μ	$\bar{y}$	$\frac{s}{\sqrt{n}}$
	Two independent groups	2-Sample t-Test 2-Sample t-Interval	t df from technology	$\mu_1 - \mu_2$	$\bar{y}_1 - \bar{y}_2$	$\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$
	Matched pairs	Paired t-Test Paired t-Interval	t $\text{df} = n - 1$	μ_d	$\bar{d}$	$\frac{s_d}{\sqrt{n}}$

Inference about?	One group or two?	Procedure	Model	Parameter	Estimate	SE
Distributions (one categorical variable)	One sample	Goodness-of-Fit	χ^2 df $= cells - 1$	$\sum \frac{(\text{obs} - \text{exp})^2}{\text{exp}}$		
	Many independent groups	Homogeneity χ^2 Test	χ^2 df $= (r-1)(c-1)$			
Independence (two categorical variables)	One sample	Independence χ^2 Test				
Association (two quantitative variables)	One sample	Linear Regression t-Test or Confidence Interval for β	t df $= n - 2$	β_1	b_1	$\frac{s_e}{s_x\sqrt{n-1}}$ (compute with technology)
		*Confidence Interval for μ_ν		μ_ν	$\hat{y}_\nu$	$\sqrt{SE^2(b_1) \cdot (x_\nu - \bar{x})^2 + \frac{s_e^2}{n}}$
		*Prediction Interval for y_ν		y_ν	$\hat{y}_\nu$	$\sqrt{SE^2(b_1) \cdot (x_\nu - \bar{x})^2 + \frac{s_e^2}{n} + s_e^2}$

Source: Stats, Modeling by the World