Nuts and Bolts of inferential statistics: One Sample "t" tests:

I) The Hypothesis :

A) *The Null Hypotheses* – no relationship; states a difference is equal to constant , usually zero.

H0: $\mu = \bar{X}$

B) *The Alternative Hypothesis*

H1: $\mu \neq \bar{X}$ (two tail test, not predicting direction)

$\mu \geq \bar{X}$ (predicting direction)

$\mu \leq \bar{X}$ (predicting direction)

II) *Set the Level of Significance & Critical Value*

($p<.05$ or $p<.01$)

III) Perform statistical test with appropriate Sampling Distribution

One sample t test- sampling distribution of mean

$t = \bar{X}-\mu / S_{\bar{x}}$ $\quad d = |\bar{X}-\mu| / \tilde{s}$ (size effect)

Standard Error = $s_{\bar{x}} = \hat{s}/\sqrt{n}$

IV) Conclusion: *Revisit Null in terms of variables and discuss size effect.*