



Calculate the value of your statistic, determine your *degrees of freedom*, and enter the table at the strictest probability level available, e.g., $p = .001$

For the purposes of this example, imagine that our table uses $p = .001$ as the best p value presented. Enter the table by going down the *degrees of freedom* column until you find yours, and then working across to the $p = .001$ column

~~*~~ **Statistically Significant Outcomes**

NOW, ask the question: IS MY CALCULATED VALUE EQUAL TO OR LARGER THAN THE TABLED VALUE AT $p = .001$?

If the answer is NO, meaning your answer is smaller, GOTO the $p = .01$ column

If the answer is YES, REJECT H_0 at the $p = .001$ level ~~*~~

NOW, ask the question again with reference to the value in the $p = .01$ column value.

If the answer is NO, meaning your answer is smaller, GOTO the $p = .05$ column

If the answer is YES, REJECT H_0 at the $p = .01$ level ~~*~~

NOW, ask the question for the LAST TIME with reference to the $p = .05$ column value.

If the answer is NO, meaning your answer is smaller, **ACCEPT H_0**

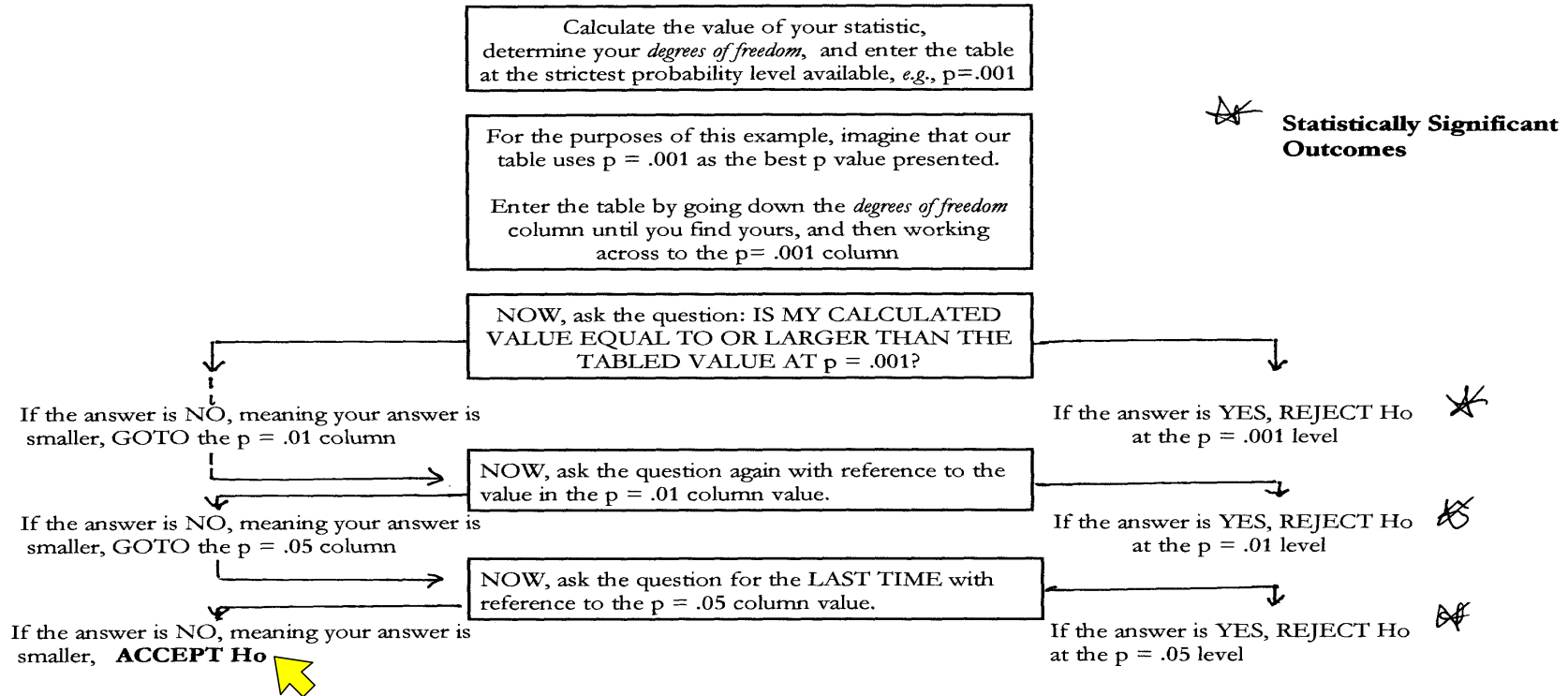
If the answer is YES, REJECT H_0 at the $p = .05$ level ~~*~~

REVISED

3:51 pm, Oct 27, 2010

MAKING A STATISTICAL DECISION

When you use a computer based statistical program to do statistical data analysis, making a decision regarding significance is simplified. When a computer statistical program calculates your answer, it often tells you the probability level associated with it, also known as the significance level, of your test. **Any probability level equal to or smaller than a probability level of .05 can be described as being statistically significant.** When you are working on your own without a computer, or when the computer does not give you the probability associated with your outcome, you have to use special statistical tables and proceed as described below.



Note: The probability of a test, or p level, is also sometimes called the α level (α is the Greek letter alpha). The p or α level of a test is the probability of **Type I error** (also known as alpha error), *i.e.*, it is the probability of rejecting H_0 when we should have accepted it. Researchers want to keep the likelihood of this error as small as possible since the smaller it is THE MORE STATISTICALLY SIGNIFICANT IS THEIR OUTCOME. For example, when H_0 is REJECTED at say $p = .001$ it means that there is only 1 chance in 1000 that their rejection of H_0 was incorrect. If H_0 is rejected at $p = .01$, it means there is 1 chance in 100 that their decision was incorrect. If $p = .05$ only 5 chances in 100 that the decision was wrong, *etc.* Rejecting H_0 at $p = .001$ is better than at $p = .01$ which in turn is better than at $p = .05$ (Dr. A.A. Walsh, 040317)