

Ode to Statistics

If you want to know the reason for a difference you have seen
And your data are symmetrically spread about the mean
Then the T-test should be used to help you come to a decision,
With confidence and joy and mathematical precision.

But if your distribution is decidedly lop-sided
Then it's by Mann Whitney's U Test you should let yourself be guided.
For the median of the sample represents these data best
And your answer could be wrong if you employed a different test.

If a pair of variables are thought to be related,
To Spearman's Rank we turn – this is a test most highly rated.
For it lists all things in order before allocating ranks,
Which can be easily compared – Mr Spearman earns our thanks.

When you're looking for connections between data categorical,
Then Chi-Squared Association is your stati-tistical oracle.
It compares your figures with the ones you would expect
If the distribution's random and the data don't connect.

Whichever test you use, it will inform you at a glance
The probability that your results are due to chance.
If this is more than five per cent your theory may be wrong,
But at least the test you used was right, thanks to this little song!

To all the clever fellows who invented every test
We really ought to raise a glass and wish them all the best,
For without their work biologists could never understand
The significance of their results – aren't mathematics grand?!

Steve Taverner