***Chi-squared***

The chi-squared (χ²) test is a statistical method used to determine if there is a significant association between observed and expected frequencies in categorical data. It's widely used in hypothesis testing and is especially useful in situations where you're working with counts or frequencies.

There are two main types of chi-squared tests:

* Chi**-squared goodness of fit test**: To determine if a sample matches an expected distribution.
* Chi**-squared test of independence**: To test whether two categorical variables are independent or related. The formula for the chi-squared statistic is:

χ2 = ∑(Oi – Ei)2/Ei

Where:

* Oi = observed value (actual value)
* Ei= expected value.

The summation (∑\sum∑) runs over all categories or cells in the table.

The result is then compared to a chi-squared distribution table, where you can determine the significance based on degrees of freedom (related to the number of categories and constraints).

Top of Form

Bottom of Form