Statistical significance testing

Chi-squared test for trend

Analysed: Mon Aug 09, 2021 @ 18:50 UTC

Summary results

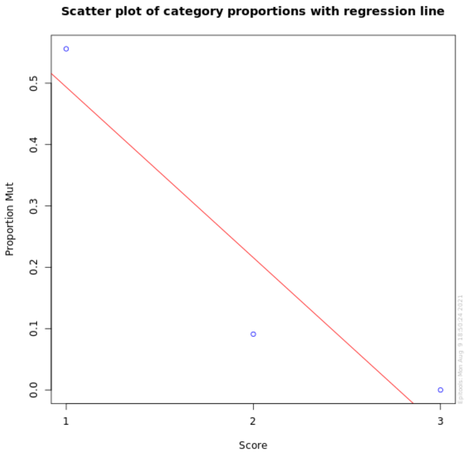
Table data

	Score	Mut	Wt	Totals	Proportion Mut
1	1	10	8	18	0.556
2	2	1	10	11	0.091
3	3	0	3	3	0
4	Totals	11	21	32	0.344

Chi-squared for linear trend

	Chi-square statistic	Degrees of freedom	P-value	Slope	Interpretation
Pearson's Chi-square	8.2683	2	0.016		Statistically significant, association between score and outcome supported
Chi-square for slope (linear trend)	7.4455	1	0.0064	-0.3468	Slope differs significantly from 0
Chi-square for non-linearity	0.8228	1	0.3644		Trend does **not** differ significantly from linearity and therefore can be considered to be a linear relationship

Scatter plot of category proportions with regression line



Chi-squared test for trend

Confidence level 0.95

Digits after decimal point 4

Paste three columns of data (3 or more rows) to be analysed in the space below and click on submit. Include a header row with column identifiers. The first column must be numeric and represents the score or value for each category. Other columns are counts of individuals in each category combination. Do not include row or column totals.

Download example data

```
Score   Mut  Wt
1       10   8
2       1    10
3       0    3
```

Submit

Undertake a chi-squared test for trend on a contingency table with 2 columns and 3 or more rows.

Inputs are:

- the desired level of confidence in the estimate;
- the desired precision of the results; and
- three columns of data. The first column represents group scores or values, while the remaining 2 columns are the respective counts for each combination of row and column categories. A header row of column names must be included but do not include row or column totals.

Outputs include:

- the table of observed counts, with row and column totals; and;
- chi-squared statistic, degrees of freedom and corresponding P-value for normal chi-square test, as well as for slope and linearity of the data:
  - first row is a standard Pearson's Chi-squared test for association between predictor and outcome;
  - second row is a Chi-squared test for linear trend. A significant result suggests that the slope of the trend line is non-zero; and;
  - third row is a Chi-squarted test for linearity of the trend. A significant result suggests the trend is non-linear.