



Significance Testing in SurveyTime

SurveyTime now has significance testing implemented. This feature will highlight cells in a tabulation to reflect whether they are statistically significant. What does this mean?

When choosing this option, the user is given the choice of whether they want to analyse Rows or Columns. Depending on which is chosen the program will compare the result for Column/Row against the Not Column/Row

So, for instance if the user chooses Column and the first Column is Men then, for each row, the program will analyse the significance of the result against the same data for 'Not Men'

I have specifically used 'Not Men' rather than Women to emphasise that whatever the column definition the comparison will be against the NOT (Column definition).

This differs from some other systems that compare against the Total column. However, since every column is included within the total it is much more informative to compare against the NOT definition

So, to illustrate with an example:

| | | 0 | 1 | 2 | |
|---|--|---------------|---------------|-----------------|--------|
| | | Totals | Male ~ Gender | Female ~ Gender | |
| 0 | Totals | Audience(000) | 31,075 | 15,282 | 15,792 |
| | | Resps | 43,266 | 19,270 | 23,996 |
| | | %Col | 100.0 | 100.0 | 100.0 |
| | | %Row | 100.0 | 49.2 | 50.8 |
| | | Index | 100 | 100 | 100 |
| 1 | AMA Insider Magazine ~ Magazines-Print-English | Audience(000) | 1,075 | 539 | 536 |
| | | Resps | 2,011 | 957 | 1,054 |
| | | %Col | 3.5 | 3.5 | 3.4 |
| | | %Row | 100.0 | 50.1 | 49.9 |
| | | Index | 100 | 102 | 98 |
| 2 | ELLE CANADA ~ Magazines-Print-English | Audience(000) | 1,525 | 321 | 1,203 |
| | | Resps | 1,898 | 312 | 1,586 |
| | | %Col | 4.9 | 2.1 | 7.6 |
| | | %Row | 100.0 | 21.1 | 78.9 |
| | | Index | 100 | 43 | 155 |

In this example Columns was chosen and so for each Row the result was compared for men v Not Men (Women)

AMA Insider Magazine shows there is no statistically different difference between Men and Women.

Elle Canada shows a very high significance at 99% as one would expect



The significance is based on the standard t-test for two sample of different sizes

The colours reflect:

Black – no significant difference

Red – Significant at 90% level

Orange – Significant at 95% level

Green – Significant at 99% level

It should be emphasised that the comparison of Col/Row v NOT Col/Row depends on the table base as it is all within the table base

So, by example, if the table base is MEN and the column chosen is Age 15-24 the comparison will be between:

Men Aged 15-24 and Men NOT(15-24)