Rapport package team

Crosstable

2011-04-26 20:25 CET

## Description

Returning the Chi-squared test of two given variables with count, percentages and Pearson's residuals table.

### Variable description

Two variables specified:

* "gender" ("Gender") with *673* and
* "dwell" ("Dwelling") with *662* valid values.

### Counts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | city | small town | village | Missing | Sum |
| **male** | 338 | 28 | 19 | 25 | 410 |
| **female** | 234 | 3 | 9 | 17 | 263 |
| **Missing** | 27 | 2 | 2 | 5 | 36 |
| **Sum** | 599 | 33 | 30 | 47 | 709 |

Counted values

Most of the cases (338) can be found in "male-city" categories. Row-wise "male" holds the highest number of cases (410) while column-wise "city" has the utmost cases (599).

### Percentages

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | city | small town | village | Missing | Sum |
| **male** | 47.67 | 3.95 | 2.68 | 3.53 | 57.83 |
| **female** | 33.00 | 0.42 | 1.27 | 2.40 | 37.09 |
| **Missing** | 3.81 | 0.28 | 0.28 | 0.71 | 5.08 |
| **Sum** | 84.49 | 4.65 | 4.23 | 6.63 | 100.00 |

Total percentages

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | city | small town | village | Missing |
| **male** | 82.44 | 6.83 | 4.63 | 6.10 |
| **female** | 88.97 | 1.14 | 3.42 | 6.46 |
| **Missing** | 75.00 | 5.56 | 5.56 | 13.89 |
| **Sum** | 84.49 | 4.65 | 4.23 | 6.63 |

Row percentages

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | city | small town | village | Missing | Sum |
| **male** | 56.43 | 84.85 | 63.33 | 53.19 | 57.83 |
| **female** | 39.07 | 9.09 | 30.00 | 36.17 | 37.09 |
| **Missing** | 4.51 | 6.06 | 6.67 | 10.64 | 5.08 |

Column percentages

### Chi-squared test

|  |  |  |
| --- | --- | --- |
| Test statistic | df | P value |
| 16.18 | 6 | 0.01282 |

Pearson's Chi-squared test: table

It seems that a real association can be pointed out between *gender* and *dwell* by the *Pearson's Chi-squared test* (χ=*16.18* at the degree of freedom being *6*) at the significance level of *0.01282*. Based on Goodman and Kruskal's lambda it seems that *dwell* (λ=*0.6321*) has an effect on *gender* (λ=*0*) if we assume both variables to be nominal. The association between the two variables seems to be weak based on Cramer's V (*0.08722*).

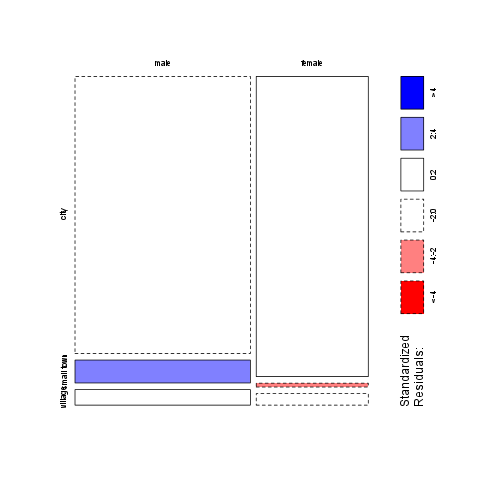
|  |  |  |  |
| --- | --- | --- | --- |
|  | city | small town | village |
| **male** | -3.08 | 3.43 | 0.76 |
| **female** | 3.08 | -3.43 | -0.76 |

Pearson's residuals

Based on Pearson's resuals the following cells seems interesting (with values higher then 2 or lower then -2):

* "male - city"
* "female - city"
* "male - small town"
* "female - small town"

### Charts

[](plots/crosstable-1-hires.png)

## Description

Returning the Chi-squared test of two given variables with count, percentages and Pearson's residuals table.

### Variable description

Two variables specified:

* "email" ("Email usage") with *672* and
* "dwell" ("Dwelling") with *662* valid values.

### Counts

|  |  |  |  |
| --- | --- | --- | --- |
|  | city | small town | village |
| **never** | 12 | 0 | 0 |
| **very rarely** | 30 | 1 | 3 |
| **rarely** | 41 | 3 | 1 |
| **sometimes** | 67 | 4 | 8 |
| **often** | 101 | 10 | 5 |
| **very often** | 88 | 5 | 5 |
| **always** | 226 | 9 | 7 |
| **Missing** | 34 | 1 | 1 |
| **Sum** | 599 | 33 | 30 |

Counted values (continued below)

|  |  |  |
| --- | --- | --- |
|  | Missing | Sum |
| **never** | 1 | 13 |
| **very rarely** | 2 | 36 |
| **rarely** | 1 | 46 |
| **sometimes** | 8 | 87 |
| **often** | 7 | 123 |
| **very often** | 10 | 108 |
| **always** | 17 | 259 |
| **Missing** | 1 | 37 |
| **Sum** | 47 | 709 |

Most of the cases (226) can be found in "always-city" categories. Row-wise "always" holds the highest number of cases (259) while column-wise "city" has the utmost cases (599).

### Percentages

|  |  |  |  |
| --- | --- | --- | --- |
|  | city | small town | village |
| **never** | 1.69 | 0.00 | 0.00 |
| **very rarely** | 4.23 | 0.14 | 0.42 |
| **rarely** | 5.78 | 0.42 | 0.14 |
| **sometimes** | 9.45 | 0.56 | 1.13 |
| **often** | 14.25 | 1.41 | 0.71 |
| **very often** | 12.41 | 0.71 | 0.71 |
| **always** | 31.88 | 1.27 | 0.99 |
| **Missing** | 4.80 | 0.14 | 0.14 |
| **Sum** | 84.49 | 4.65 | 4.23 |

Total percentages (continued below)

|  |  |  |
| --- | --- | --- |
|  | Missing | Sum |
| **never** | 0.14 | 1.83 |
| **very rarely** | 0.28 | 5.08 |
| **rarely** | 0.14 | 6.49 |
| **sometimes** | 1.13 | 12.27 |
| **often** | 0.99 | 17.35 |
| **very often** | 1.41 | 15.23 |
| **always** | 2.40 | 36.53 |
| **Missing** | 0.14 | 5.22 |
| **Sum** | 6.63 | 100.00 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | city | small town | village | Missing |
| **never** | 92.31 | 0.00 | 0.00 | 7.69 |
| **very rarely** | 83.33 | 2.78 | 8.33 | 5.56 |
| **rarely** | 89.13 | 6.52 | 2.17 | 2.17 |
| **sometimes** | 77.01 | 4.60 | 9.20 | 9.20 |
| **often** | 82.11 | 8.13 | 4.07 | 5.69 |
| **very often** | 81.48 | 4.63 | 4.63 | 9.26 |
| **always** | 87.26 | 3.47 | 2.70 | 6.56 |
| **Missing** | 91.89 | 2.70 | 2.70 | 2.70 |
| **Sum** | 84.49 | 4.65 | 4.23 | 6.63 |

Row percentages

|  |  |  |  |
| --- | --- | --- | --- |
|  | city | small town | village |
| **never** | 2.00 | 0.00 | 0.00 |
| **very rarely** | 5.01 | 3.03 | 10.00 |
| **rarely** | 6.84 | 9.09 | 3.33 |
| **sometimes** | 11.19 | 12.12 | 26.67 |
| **often** | 16.86 | 30.30 | 16.67 |
| **very often** | 14.69 | 15.15 | 16.67 |
| **always** | 37.73 | 27.27 | 23.33 |
| **Missing** | 5.68 | 3.03 | 3.33 |

Column percentages (continued below)

|  |  |  |
| --- | --- | --- |
|  | Missing | Sum |
| **never** | 2.13 | 1.83 |
| **very rarely** | 4.26 | 5.08 |
| **rarely** | 2.13 | 6.49 |
| **sometimes** | 17.02 | 12.27 |
| **often** | 14.89 | 17.35 |
| **very often** | 21.28 | 15.23 |
| **always** | 36.17 | 36.53 |
| **Missing** | 2.13 | 5.22 |

### Chi-squared test

|  |  |  |
| --- | --- | --- |
| Test statistic | df | P value |
| 20.63 | 21 | 0.4818 |

Pearson's Chi-squared test: table

It seems that no real association can be pointed out between *email* and *dwell* by the *Pearson's Chi-squared test* (χ=*20.63* at the degree of freedom being *21*) at the significance level of *0.4818*. For this end no other statistical tests were performed.

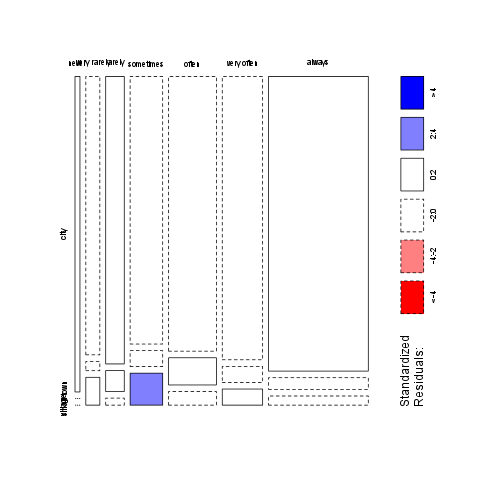
|  |  |  |  |
| --- | --- | --- | --- |
|  | city | small town | village |
| **never** | 1.15 | -0.81 | -0.77 |
| **very rarely** | -0.41 | -0.59 | 1.20 |
| **rarely** | 0.20 | 0.49 | -0.80 |
| **sometimes** | -1.75 | -0.02 | 2.49 |
| **often** | -1.28 | 1.90 | -0.18 |
| **very often** | -0.17 | 0.00 | 0.24 |
| **always** | 2.10 | -1.26 | -1.64 |

Pearson's residuals

Based on Pearson's resuals the following cells seems interesting (with values higher then 2 or lower then -2):

* "always - city"
* "sometimes - village"

### Charts

[](plots/crosstable-2-hires.png)

This report was generated with [R](http://www.r-project.org/) (2.15.1) and [rapport](http://rapport-package.info/) (0.4) in *1.608* sec on x86\_64-unknown-linux-gnu platform.

