Chi squared test

EnQuireR team

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Contents

1 breakfast

1.1 breakfast × evening

Pearson's Chi-squared test

```
        Pearson's Chi-squared test

data:  tab
X-squared = 2.4567, df = 1, p-value = 0.1170
```

Contributions to the χ^2 distance for each pair of variables

```
              evening
breakfast      evening no evening
  breakfast       0.84       0.44
  no breakfast    0.77       0.40
```

P-values associated to the contributions of the pairs of categories to the χ^2 distance

```
             evening no evening
breakfast      0.074       0.074
no breakfast   0.074       0.074
```

> The variables breakfast and evening do not depend on each other for the threshold 5%. The category of the variable breakfast taken by an individual does not depend on the category he has taken for the variable evening .

1.2   breakfast × after.lunch

Pearson's Chi-squared test

```
        Pearson's Chi-squared test

data:  tab
X-squared = 1.6064, df = 1, p-value = 0.205
```

Contributions to the χ^2 distance for each pair of variables

```
              after.lunch
breakfast        after lunch no after lunch
  breakfast            0.71           0.12
  no breakfast         0.66           0.11
```

P-values associated to the contributions of the pairs of categories to the χ^2 distance

```
             after lunch no after lunch
breakfast           0.13           0.13
no breakfast        0.13           0.13
```

> **The variables breakfast and after.lunch do not depend on each other for the threshold 5%. The category of the variable breakfast taken by an individual does not depend on the category he has taken for the variable after.lunch .**

2 afternoon.tea

2.1 afternoon.tea × evening

Pearson's Chi-squared test

```
        Pearson's Chi-squared test

data:  tab
X-squared = 0.9505, df = 1, p-value = 0.3296
```

Contributions to the χ^2 distance for each pair of variables

```
                 evening
afternoon.tea      evening no evening
  afternoon tea       0.27       0.14
  no afternoon tea    0.35       0.18
```

P-values associated to the contributions of the pairs of categories to the χ^2 distance

```
                 evening no evening
afternoon tea        0.2        0.2
no afternoon tea     0.2        0.2
```

> **The variables afternoon.tea and evening do not depend on each other for the threshold 5%. The category of the variable afternoon.tea taken by an individual does not depend on the category he has taken for the variable evening .**

2.2 afternoon.tea × after.lunch

Pearson's Chi-squared test

```
        Pearson's Chi-squared test

data:  tab
X-squared = 4.1799, df = 1, p-value = 0.04091
```

Contributions to the χ^2 distance for each pair of variables

```
                  after.lunch
afternoon.tea      after lunch no after lunch
  afternoon tea          1.60            0.27
  no afternoon tea       2.00            0.35
```

P-values associated to the contributions of the pairs of categories to the χ^2 distance

```
                  after lunch no after lunch
afternoon tea           0.029          0.029
no afternoon tea        0.029          0.029
```

> **The variables afternoon.tea and after.lunch depend on each other for the threshold 5%. The category of the variable afternoon.tea taken by an individual depends on the category he has taken for the variable after.lunch .**