

Good essay about chi-square with spss

[Religion](#)



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Statistical Assumptions of the Test

Chi - square is one of the most common when testing statistical hypotheses in the socio-economic and humanities research. Widespread use of this criterion is related to the capabilities of its flexible application. Unlike the parametric methods for applying the chi-square is not required to perform many assumptions and constraints related to use, for example, z, and t-tests. The data may be measured at any scale, including par; form of distribution also unimportant for this test.

The main assumptions is that the data must be simply random sampled, the sample size must be sufficiently large, expected cell count (not lesser than 5 for each cell) and independent observations.

Variables

In this analysis we would like to investigate if there is a significant difference in how often people attend religious services by race? We choose two variables: ATTEND and RACE.

Hypotheses

Null hypothesis: there is no difference in frequencies of attention religious services by race.

Alternative hypothesis: there is a significant difference in frequencies of attention religious services by race.

Significance level

Set level of significance alpha of 5%:

$\alpha = 0.05$

Chi-Square Test With SPSS:

```
CROSSTABS /TABLES= ATTEND BY RACE /FORMAT= AVALUE TABLES  
/STATISTICS= CHISQ /CELLS= COUNT EXPECTED /COUNT ROUND CELL.
```

Since p-value of the test is lesser than 0.001, we can reject the null hypothesis and say that there is a significant difference in frequencies of attention religious services by race (at 5% level of significance).

Sources

Corder, G. W. & Foreman, D. I. (2014). Nonparametric Statistics: A Step-by-Step Approach. Wiley, New York. ISBN 978-1118840313

Greenwood, P. E., Nikulin, M. S. (1996) A guide to chi-squared testing. Wiley, New York. ISBN 0-471-55779-X