**Lab-Meeting: GORIC(A)**

*Exercise 1 (one study).*

The bain R package contains a data set sesamesim. Use it to execute and evaluate a one-way ANOVA with ‘site’ as the grouping variable and ‘postnumb-prenumb’ as the dependent variable:

*site* represents the background of a child and consists of 5 categories:

1. disadvantaged inner city,
2. advantaged suburban,
3. advantaged rural,
4. disadvantaged rural,
5. disadvantage Spanish speaking.

*postnumb* is the knowledge of numbers after watching Sesame street for one year.

*prenumb* is the knowledge of numbers before watching Sesame street for one year.

*postnumb* – *prenumb* is the difference (increase) in knowledge of numbers after watching Sesame street for one year.

Evaluate the hypotheses of interest using p-values and GORIC(A) weights\*, use informative hypotheses where possible.

*Exercise 2 (two studies).*

Janiszewski and Uy (2008) execute an experiment with one dependent variable and two factors. The dependent variable is ‘the amount in which a number given by persons differs from an anchor number expressed by means of a z-score’. One factor is ‘is the anchor number rounded (e.g. 4989) or precise (e.g. 5000)’. The other factor is ‘is there a low (in the instruction it is indicated that the number the persons have to give is close to the anchor number) or high (in the instruction it is not indicated that the number the persons have to give is close to the anchor number) motivation to change’. In the data files the dependent variable is denotes by z, the groups by g, and the four groups are labelled rl (rounded, low), rh (rounded, high), pl (precise low), and ph (precise high).

The z-score is the average of a number of questions provided to the persons. One example is:

“The retail price of a TV is $5000 (rounded). The actual price is only slightly lower (low) than the retail price. Can you guess the price?”

By changing $5000 to $4989, a precise anchor number is obtained. By changing “slightly lower” to “lower”, a high motivation to change is obtained.

Step 1. Analyze the data of Janiszewski and Uy (2008) - contained in the file JU.txt\*\* - and come up with an informative hypothesis that represents their results. For further support, you can read the following parts from the paper (“Ex2o Janiszewski&Uy.pdf”): Experiment 1 until Results, Experiment 2 until Results, and Experiment 4 (focus on 4a, because the data provided correspond to experiment 4).

Step 2. Use the data of Chandler (2015) - contained in the file C.txt\*\* - to evaluate whether this replication study supports the informative hypothesis resulting from the original study (cf. Step 1). You can do this with the GORIC(A)\*. The report by Chandler (2015) is also contained in the course materials (“Ex2r Chandler\_final.docx”).

Notes:

\* These can be obtained by using the goric() function in the restriktor package.

\*\* Note that the data used are simulated using the information provided in the paper/report.

*References:*

Janiszewski, C., & Uy, D. (2008). Precision of the anchor influences the amount of

adjustment. *Psychological Science*, *19* (2), 121–127. doi:

10.1111/j.1467-9280.2008.02057.x

Chandler, J. (2015). *Replication of Janiszewski & Uy (2008, PS, study 4b).* online.

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