**SPSS Workshop I - Analysis of Experiments**

BSS Support website: <http://www.asb.dk/tilstuderende/it-support/analysevaerktoejer/spss/>

* **Workshop 1:** You will find the course material with an assignment and data sets.
* **Guides:** Introductory manual for SPSS.
* **Course evaluation:** Please complete an evaluation of the course from each student.

**ANOVA**

The dataset used for this assignment is called: **HA2002SPSSWEEK8.SAV**

*The Model:*

1. Is the the avg. Grade (q4) influenced by sex (q9), latest qualifying degree(q2), and the interaction between the sex and degree?
2. Is there a significant difference between the avg. grades for male and female students?
3. Which degrees have significantly different avg. grade?
4. Within what confidence interval is the difference between the Gym.mat students and the HH students? (Use a multiple comparisons)
5. Visualize the effects in the model

*Assumptions:*

1. Is there homogeneity of variance? (Use Levene’s test)
2. Are the residuals normally distributed?
3. Are the residuals independent?
4. Which implications do the answers of the 3 last questions have for the assumptions of the model?

**Chi Square test**

The dataset used for this assignment is called: **RUS98\_ENG.SAV**

*Is there any relationship between your study program and how much you expect to earn?*

1. Does it look like there is any dependency? (Crosstab analysis)
2. By using a chi square test, test if it possible to reject the H0 about independency between study program and how much you expect to earn.
3. If you reject the H0, then investigate the strength of the relationship (Use Cramer’s V)

**Extra Assignment: Chi-Squared Goodness-of-fit Test**

The dataset used for this assignment is called: **Extra\_Assignment.sav**

Suppose we flip a coin 4 times and count the number of heads (successes). The binomial random variable is the number of heads, which can take on values of 0, 1, 2, 3 and 4. We believe that outcome of a coin is a binomial random variable with probability = 0.5 for a head and 0.5 for a tail.

Can we infer that the number of heads in 4 coin flips is not a binomial random variable with p = 0.5?

(Hint: Find the probability of X=0, 1, 2, 3 and 4 from a binomial distribution with n=4 and p=0.5)