

## Research and Study Group

Adaptation of methods for searching interaction effects in social data

## WORK SCHEME

### DETERMINE SCALE TYPE OF INDEPENDENT VARIABLES

In controversial cases, use ANOVA as a criterion for variables' measure

If the quality of analysis is sufficient, then you can stop at the model with main effects, if it is not, you should move to the next step

### ANALYZE DEEP INTERACTION EFFECTS

Use log-linear analysis or classification trees to find significant interaction effects

### USE ANOTHER SET OF VARIABLES

If even with the interaction effects in the linear regression the result remains unsatisfactory, then another set of variables should be chosen for analysis

### CHECK FUNCTIONAL LINK'S SHAPE

Run linear regression and ANOVA with the main effects. It is empirically established that 10% or less difference in the R-squared for regression and ANOVA is acceptable for further work

### CHECK THE QUALITY

Conduct tests for homoscedasticity, unbiasedness, overfitting; check the R-squared

### USE ANOVA FOR DIAGNOSTICS OF THE MODEL WITH INTERACTION EFFECTS

Repeat st. 1-3

**RUN REGRESSION WITH INTERACTION EFFECTS, CHECK ITS QUALITY AND INTERPRET THE RESULTS**

### PREDETERMINE THE QUALITY OF FUTURE MODEL

The ANOVA-table shows the maximum possible R-squared

### RUN LINEAR REGRESSION

The model should be based on main effects

