

FHS UK - Historical sociology  
**Quantitative Data Analysis I. and II. (QDA I. / II.)**  
**Seminar work assignment and instructions** (valid from 2014 summer semester)  
Jiří Šafr (last revision 3/1 2015; created 29/5/2014)

**Course requirements:**

- 1. written test** (minimally 60% successfulness). It is focused on practical skills in data analysis.
  - 2. all homework.** See assignment on <http://metodykv.wz.cz> . It is updated every semester.
  - 3. seminar work** and its defence
- In QDA II. quality of seminar work (together with the result of the test) will determine the final mark.

**General rules of handing in the paper**

**Deliver the seminar project at least one week before the date of credit.**

Name of a file: **QDA1\_YourName\_keyword.doc**

(alternative formatting: rtf, pdf); when it is a revised version add number of revision

Example: **QDA1\_Smith\_Values.doc**

In the subject of your email state: **HiSo QDA1, Seminar paper, YOUR NAME**

e.g. Subject: **HiSo QDA1: Smith – seminar paper (2 version).**

**Assignment of seminar work for Quantitative Data Analysis I. and II.**

**Common for QDA I. and II.** The project is about statistical analysis and sociological interpretation of the results. It should be written as professional text (short article, research report), which purport is not mere description. Rather analysis of connections is assumed (i.e. bivariate and multivariate analysis; see specification for I. and II. semester). The project will contain:

- definition of the problem (secondary data analysis), goals of analysis (briefly)
- **research question, hypotheses, model of relationships** → the goal of the project is not only description
- description of the methods used and strategy of the analysis (very briefly)
- **transformation of data (i.e. recoding, computing new variables)**
- **processed (!) outputs** from a statistical software (it means selected, formatted for ordinary reader). Try to visualise the results using graphs.
- **substantive(!) interpretation of results an sociological commentary**
- **synthesizing conclusion summarizing results and evaluating questions in the beginning**
- optionally add (in your own benefit) command syntax of SPSS/ PSPP (such as we have done in homework and syntaxes from classes) into appendix.

It will be **at least 6 pages of fluent text in form of article or research report**, so not only hodgepodge of tables with only sporadic commentaries. Don't write long paper but rather aimed at the topic.

If you want to avoid the mistakes, look at *revision (notes and corrections) of seminar projects* at [http://metodykv.wz.cz/revize\\_seminarek\\_akd.htm](http://metodykv.wz.cz/revize_seminarek_akd.htm)

**Requirements for QDA I.** – elementary level of analysis using descriptive (univariate) statistics **with obligatory use of bivariate and simple trivariate (threefold data sorting) analysis**, so *de facto* only exploratory (i.e. „intuitive“) testing of hypotheses using contingency tables or subgroup means differences. **Obligatorily there will be at least three contingency tables (with %)** + attempt to carry out **simple threefold data sorting to examine interaction effects, i.e. simple elaboration of relationships between three variables**. You can use instead of contingency tables means in subgroups, but there will be minimally one contingency table for categorical variables (CROSSTABS with %) including correct interpretation! (so if needed categorise-recode ratio-numeric variables). Optionally try also using coefficients of association/correlation and at least one graph (for example for graphical illustration of interaction effect for 3rd level of data sorting).

Before you will start writing read:

[Elementary Analyses](http://metodykv.wz.cz/babbie95_elem_analyses.pdf) by E. Babbie at [http://metodykv.wz.cz/babbie95\\_elem\\_analyses.pdf](http://metodykv.wz.cz/babbie95_elem_analyses.pdf)

[Elaborating bivariate relationships](http://metodykv.wz.cz/devauss1986_12_elabor_bivar.pdf) by D. A. de Vauss at [http://metodykv.wz.cz/devauss1986\\_12\\_elabor\\_bivar.pdf](http://metodykv.wz.cz/devauss1986_12_elabor_bivar.pdf)

[Cross-tabulations](http://metodykv.wz.cz/CrossTabs_Treiman2009_vybK1.pdf) and [More on tables](http://metodykv.wz.cz/CrossTabs_Treiman2009_vybK2.pdf) by D. J. Treiman at [http://metodykv.wz.cz/CrossTabs\\_Treiman2009\\_vybK1.pdf](http://metodykv.wz.cz/CrossTabs_Treiman2009_vybK1.pdf) and [http://metodykv.wz.cz/CrossTabs\\_Treiman2009\\_vybK2.pdf](http://metodykv.wz.cz/CrossTabs_Treiman2009_vybK2.pdf)

**Requirements for QDA II.** – more advanced level of analysis **using inferential statistics, i.e.** testing of hypotheses will be carried out by **statistical tests**. The work will include only indispensably descriptive statistics (univariate and bivariate analysis) just for introducing a reader into the problem (it is recommended to include it rather in the appendix; here you can also use your previous seminar paper from QDA I.). It is required to employ **multivariate analysis (threefold data sorting)** with presentation of meaningful **model of relationships – elaboration** (with elimination of intervening variables effect) and assessment of **interaction effects**. For categorical data use contingency tables with Chi-square test, adjusted residuals/sign schema, confidence intervals, odds ratio, direct standardization/weighting in contingency table; for ratio-numerical data partial correlation, means in subgroups and their interaction effects with t-tests, simple analysis of variance (Oneway ANOVA) or possibly regression analysis. When preparing (dependent) variables (e.g. summative index) you may also use analysis of homogeneity (PCA, factor analysis, MDS) and analysis of item reliability. Again, **least one contingency table for categorical variables is necessary with elaboration (threefold data sorting) supplemented with Chi-square tests** (CROSSTABS with % and controlling factor, conditional coefficients of association/correlation, Chi-square tests).

You have at disposal **datasets** (just let me know):

- (Data TV&Books from our survey of FHS students – this is not recommended data anyway)
- ISSP 2007 – *Leisure and sport* – CR as well as other countries
- other modules of ISSP – International Social Survey Programme, e.g. *Social inequalities* (1992, 1999, 2009), *National identity* (1995, 2003, 2013), *Citizenship* (2004, 2014), *Religion* (1998, 2008), *Role of government* (1996, 2006) and many other. You can get the data via ZACAT, see [www.issp.org](http://www.issp.org).
- European Social Survey at <http://www.europeansocialsurvey.org>
- European Values Study at <http://www.europeanvaluesstudy.eu>
- World Values Survey at [www.worldvaluessurvey.org](http://www.worldvaluessurvey.org)
- Some other data sets (including English translation of codebooks) can be obtained from **Czech social science data archive** at <http://archiv.soc.cas.cz> .