Writing a quantitative research report (Assessment 2)

# Step-by-step assessment guidance

This document outlines a process that you could follow to undertake your assessment. This assessment is about learning to go through the process of undertaking a quantitative sociological analysis in a systematic and efficient way. Running a statistical analysis is easy, running a justifiable analysis, however, requires knowledge and understanding. Creating new research, evaluating and analysing are complex skills.

This assessment is a brief research report worth 50% of the overall module mark. In this report, you will answer an empirical research question using the same quantitative dataset used during the semester in the IT labs/seminars (“Understanding Society”). Using this dataset, you will identify several variables that you find relevant to answering your chosen research question.

# Step 1 – choose a research theme/question and find some literature on the topic

The first thing you should do is choose a question/research theme. There are several suggested on Canvas (<https://ncl.instructure.com/courses/42844/pages/assessment-2-research-theme-slash-question-ideas?module_item_id=2046442>):

**Q1. What socio-economic factors influence people’s satisfaction with their lives?**

*There is rich sociological literature on the topic of life satisfaction. Life satisfaction is sometimes also referred to as subjective wellbeing (a person’s evaluation of his or her life). Based on the sociological literature, come up with some potential factors that could explain people’s life satisfaction or subjective wellbeing, and test statistically whether there is a relationship between these factors (the independent variables) and people’s satisfaction with their lives (the dependent variable). To test the statistical relationship between your dependent and independent variables you should use the UKHLS (Understanding Society) dataset we used in class and apply appropriate statistical tests from the computer labs.*

**Q2. Gender can be an important aspect of people’s sense of who they are (their social identity). What factors influence the importance one attributes to ‘gender’ in their self-identity?**

*Sociologists are often interested in the role ‘gender’ plays in people’s identity constructions. But what do people think? The task is to come up with potential factors (independent variables) that may be associated with the importance that people attribute to gender in their sense of identity (dependent variable).* *The UKHLS (Understanding Society) data set contains a variable which can serve as the dependent variable, and various potential explanatory (independent) variables. Use this dataset to conduct your analysis by applying appropriate statistical tests from the computer labs.*

**Q3. What factors influence people’s opinion on whether UK should remain a member of the EU or leave the EU?**

*There is one variable in the* *UKHLS (Understanding Society) data measuring whether respondents preferred the UK to leave or to stay in the EU. The question is: what factors may influence people’s opinions on the issue? Your task is to come up with some potential factors or explanations (e.g. gender, class, income, geography, political party preference, life satisfaction etc.) and test statistically whether there is a relationship between these factors (the independent variables) and ‘Leave’/’Stay’ preferences (the dependent variable). To come up with factors/explanations you can use some academic literature that has been previously published on the topic, but you can also be inventive and relying on your logic come up with some other plausible factors/explanations that you can test using the UKHLS data-set. To test the statistical relationship between your dependent and independent variables you should use the UKHLS dataset we used in class and apply appropriate statistical tests from the computer labs.*

**Q4. Alternatively come up with your own research topic/question.**

*The UKHLS (Understanding Society) data set contains many variables that are useful for answering a great variety of sociological questions. If you want to come up with your own question on a topic of interest which can be analysed using the UKHLS dataset (the one we used on the module), you are free to do so. You will have to state your question clearly (like in the examples above) and follow the same steps to undertake the analysis.*

After you have decided on your research theme/question, you can search for some academic literature on the topic. This is the same literature search process you have employed in writing essays for other modules (try searching Google Scholar, the library holdings, etc. with keywords relating to your topic). This will allow you to place your research question and analysis within some broader literature.

# Step 2 – choose your variables

Now that you have chosen a research theme/question you will need to decide on variables that will allow you to analyse that area/theme/question.

First, the research question you have chosen will determine the main variable: the variable that you are attempting to explain (e.g. life satisfaction; importance of gender to one’s identity; preference for Leave/Remain in EU). If you decide to employ a multiple regression method, then this variable will be your ‘dependent’ variable.

Second, you will need to come up with some variables that you believe can help explain your variable of interest. These can be anything that make theoretical sense to you or that relate to what you have read in the literature review.

The assessment asks that you combine at least two bivariate statistical methods **or** one multivariate model to answer your question. Since the appropriate method depends on the type of variables you have, make sure you compile a list of variables of different types that you can examine.

To do this, look at the variables available in the UKHLS (h\_indresp\_td) dataset in SPSS. The UKHLS website provides detailed information on all variables, and you can search for any variables that you find in the dataset to get more information on what they actually mean: <https://www.understandingsociety.ac.uk/documentation/mainstage/dataset-documentation>

Find some variables that would help you analyse the research theme you have chosen and make a list of them in the table below. I have added two examples (in red) of how to do this, for two very basic socio-demographic variables: *age* and *gender*.

You can list the variables you **may** want to use for your analyses in the table below. Not all the variables you list have to be included in the report, but having them listed is an easy way to keep track of the variables that could potentially be interesting. You can add as many additional rows to the table as you wish. To find out whether they are categorical or scale you have to check the variable out in SPSS.

Table 1: Example of a table that could help keep an eye on variables of interest (this is just a convenience tool, and should not be included in the report!!!)

|  |  |  |
| --- | --- | --- |
| Variable name | Variable label | Type of variable e.g. categorical/scale |
| h\_age\_dv | Age, derived from dob\_dv and intdat\_dv | Scale |
| h\_sex\_dv | Sex, derived | Nominal (Categorical) |
|  |  |  |
| ADD ROWS IF NEEDED… |  |  |

# Step 3 – decide what methods are appropriate

This depends on the type (measurement level) of your chosen variables. You can refer to the tables of methods available in a separate document on Canvas: <https://ncl.instructure.com/courses/42844/modules/items/2046512>

Here you have two options. You can choose to:

* Perform two different bivariate tests (Chi-square, correlation, t-test, ANOVA), **or**
* One multiple regression (linear regression, binary logistic regression)

# Step 4 - conduct the statistical analysis

You have chosen a research question/theme, variables and your methods. The next step is to undertake the steps involved in a quantitative statistical analysis. This is exactly what we have practiced in the IT labs in Weeks 9, 10 and 11, so you can follow the relevant examples in the worksheets.

# Step 5 – interpret and report your findings

We have practiced how to report the results from the various tests in the worksheets. Have a look at the examples there and write short 100-150 words on the analysis, describing in your words exactly what you have done and what the results were.

Below are links to the UCLA web pages which explain the SPSS output related to each of the methods (hold **Ctrl** and click on the link to go to the web page).

* **Chi-square – 2 categorical variables**: [*Annotated SPSS output*](https://stats.idre.ucla.edu/spss/whatstat/what-statistical-analysis-should-i-usestatistical-analyses-using-spss/#chisq)
* **Correlation – 2 scale (metric) variables:** [*Annotated SPSS output*](https://stats.idre.ucla.edu/spss/output/correlation/)
* **ANOVA – scale and a categorical variable with more than 2 categories:** [*Annotated SPSS output*](https://stats.idre.ucla.edu/spss/whatstat/what-statistical-analysis-should-i-usestatistical-analyses-using-spss/#1anova)
* **t-test  - scale and categorical with 2 categories:** [*Annotated SPSS output*](https://stats.idre.ucla.edu/spss/whatstat/what-statistical-analysis-should-i-usestatistical-analyses-using-spss/#2ittest)
* **Multiple linear regression:** [**https://stats.idre.ucla.edu/spss/output/regression-analysis/**](https://stats.idre.ucla.edu/spss/output/regression-analysis/)
* **Binary logistic regression:** [**https://stats.idre.ucla.edu/spss/output/logistic-regression/**](https://stats.idre.ucla.edu/spss/output/logistic-regression/)

# Step 6 – Discuss the broader relevance of your findings

Now that you have undertaken your statistical analysis and have interpreted your results, place those results in the broader sociological context of the literature you have reviewed. Here you can attempt to generalise a bit from your findings and describe how it sits with what other researchers have discovered.