# Training I: CV method

## Tasks

**1. Get to know the data**

-Run a Descriptive analysis-Means and std, frequencies for ordinal variables for the following variables

Α. Socio-demographic (Type, Q25, Q26, Q31, Q33)

B. Env. Behavior (Q19, Q20,Q21a,Q21b)

C. Values (Q2)

D. Attitudes on env. problems (Q8, Q9a to Q9g, Q10, Q11a-Q11g, Q12)

**2. Recoding variables**

- Recoding the following variables

Q31: dummy (academic=1, 0=otherwise)

Q33: dummy (over 1000=1, 0=otherwise)

**3. T-test for testing sample representativeness:**

Q25=55, Q26=0.50, Q31\_rec=0.20, Q33=0.20)

**4. Anova analysis (A, B and D variables)**

-By type of respondents

-By users/non users

**5. WTP function**

Α.Willingness to contribute (Q13):

Descriptive: Frequency by groups of respondents (users/non users and type of respondents). Check stat. significant differences

Binary logit: Run a binary logit model using all the variables A to D

Save probability

B. Willingness to pay (Q14)

Descriptive: Mean and anova analysis by groups of respondents (users/non users and type of respondents).

Simple regression: Run a linear regression model using all the variables A to D

A two-way simple regression: Run a linear regression model using all the variables A to D given that estimated willingness to participate is positive

Describe the model and estimate the WTP for the sample mean and media

How should you treat zeros? Rerun the regression excluding zeros.

**6. Conduct a welfare analysis**

-Aggregate WTP

Estimate the aggregated WTP considering that the local population is 55.149 residents

Estimate the present value of benefits of a 5-year project (discount rate=2%)

-Cost-Benefit analysis

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Expenses** | **Cost in Euros per Year** | | | | |
|  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** |
| Infrastructure investment | 366.868 | 1.182.130 | 774.500 | 0 | 0 |
| Expanses of fundamental actions | 203.814 | 0 | 248.492 | 203.653 | 203.653 |
| Regular operative expanses | 90.550 | 90.550 | 236.430 | 236.430 | 236.430 |
| Total cost per year | 661.232 | 1.272.680 | 1.259.422 | 440.083 | 440.083 |
| **Total cost** |  | | | | **4.073.500** |

## Documentation:

<https://www.ibm.com/support/pages/ibm-spss-statistics-25-documentation>

<ftp://public.dhe.ibm.com/software/analytics/spss/documentation/statistics/25.0/en/client/Manuals/IBM_SPSS_Statistics_Base.pdf>

<ftp://public.dhe.ibm.com/software/analytics/spss/documentation/statistics/25.0/en/client/Manuals/IBM_SPSS_Regression.pdf>