Bias in Students' Evaluations

Which factors influence students' evaluations?

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Politecnico di Milano

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The Data

Program for International Student Assessment

The Data

Program for International Student Assessment

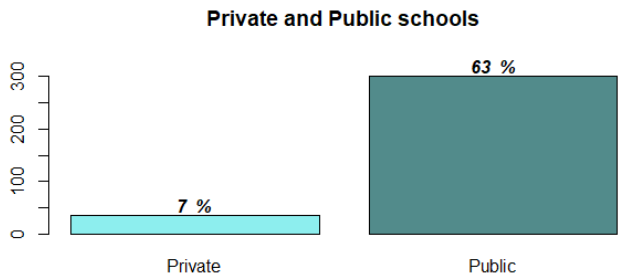
Questionnaire responses from
11 583 students from 473 schools in Italy

	school_id	student_id	gender	escs	video_games	read_books	subjective_well_being	test_anxiety	pv5math
1	38000001	38001373	Female	-0.3447	Yes, and I use it	No	1.0269	0.1359	498.980
2	38000001	38016880	Female	0.6827	Yes, but I don't use it	No	-0.6857	1.8135	563.478
3	38000001	38018781	Female	1.3603	Yes, but I don't use it	Yes	-0.6040	0.7186	590.441
4	38000001	38012431	Female	0.1030	Yes, and I use it	Yes	1.0269	0.7721	459.616
5	38000001	38011047	Female	-0.0763	No	Yes	-0.3381	0.2060	521.015
6	38000001	38012323	Female	1.5589	Yes, but I don't use it	Yes	-0.8234	1.3418	458.420

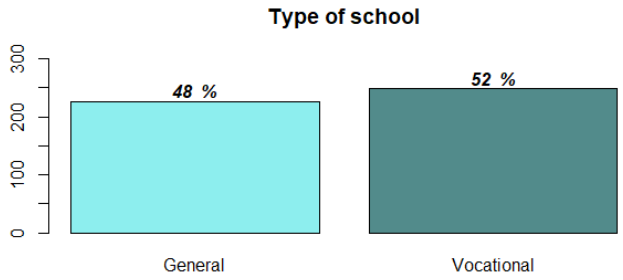
About Schools

General information:

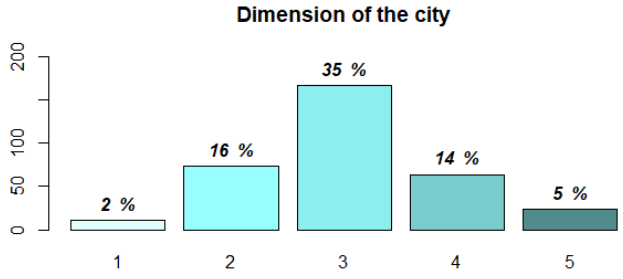
- Private or public



- General or vocational



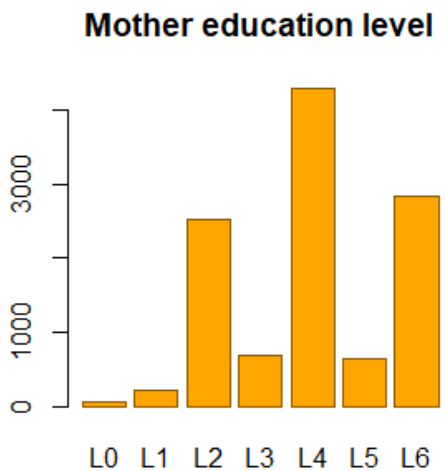
- Big or small city

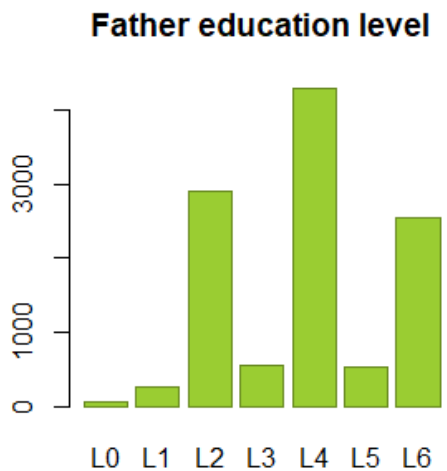


About Students

General information:

- Gender
- Native or immigrants
- ESC status
- Educational level of Parents

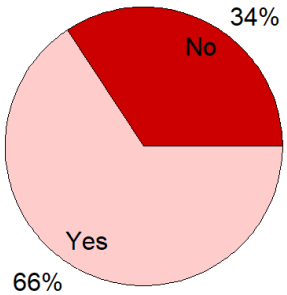




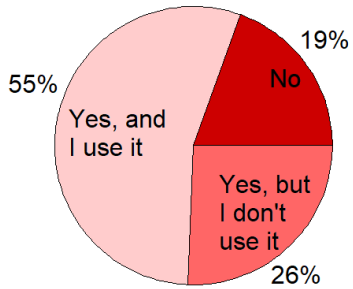
About Students

Habits and hobbies:

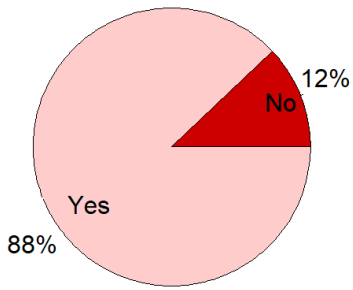
- Sports



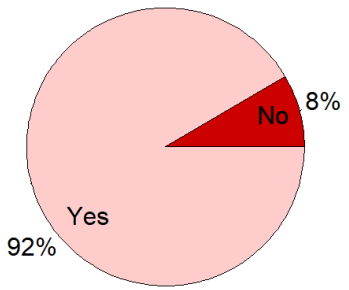
- Video games



- Meeting friends



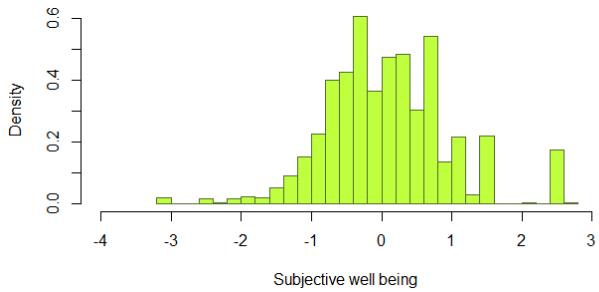
- Social media



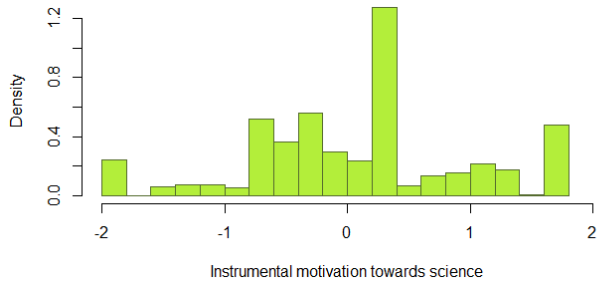
About Students

Subjective questions:

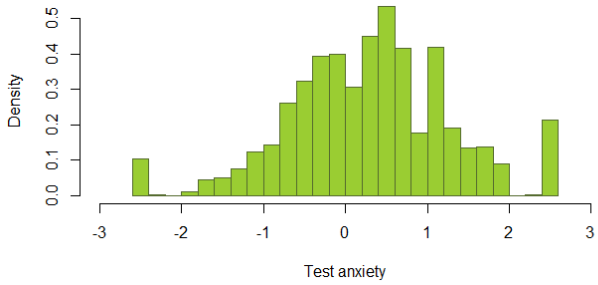
- Subjective well being



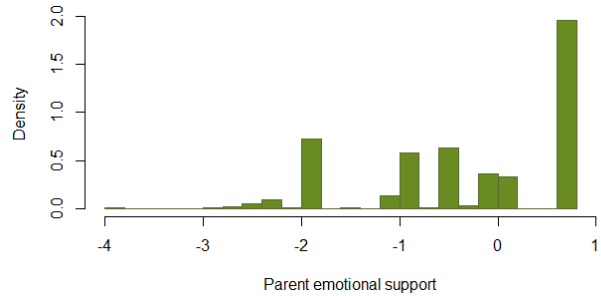
- Motivation



- Anxiety for tests



- Parents emotional support



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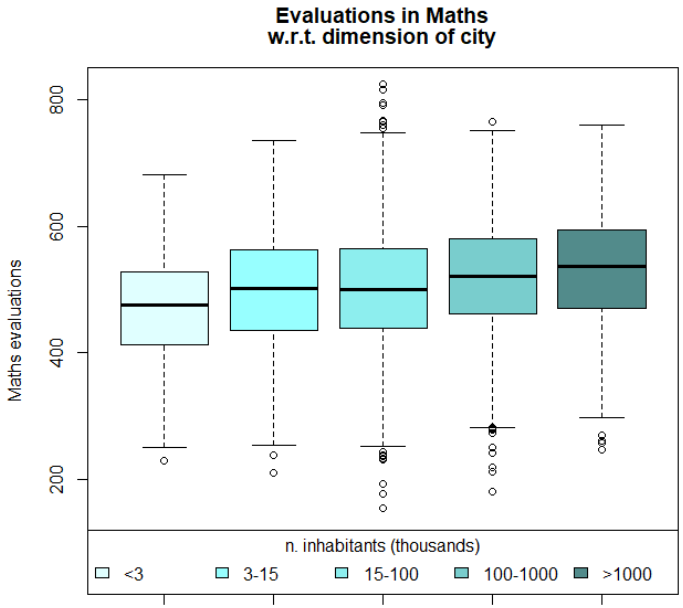
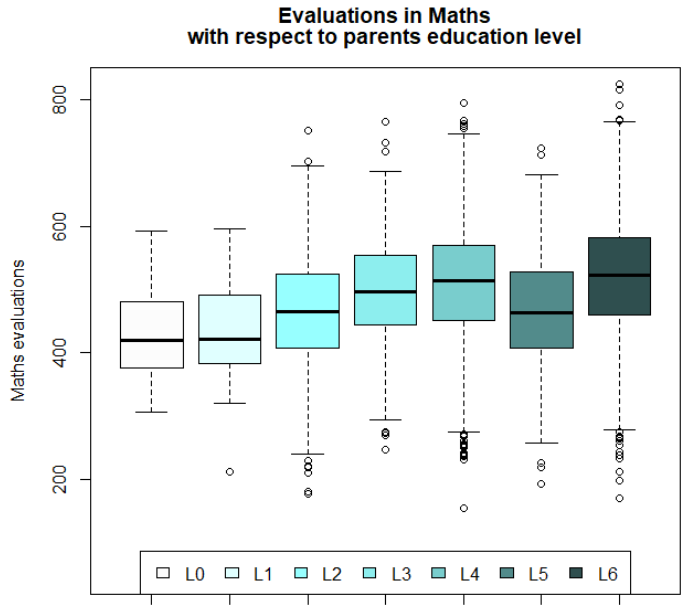
3. Prediction on new observations

Preliminary plots





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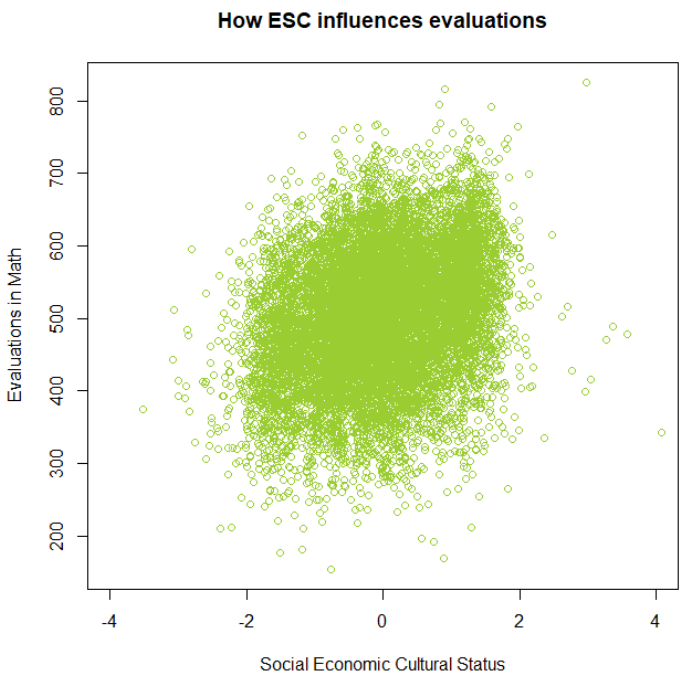

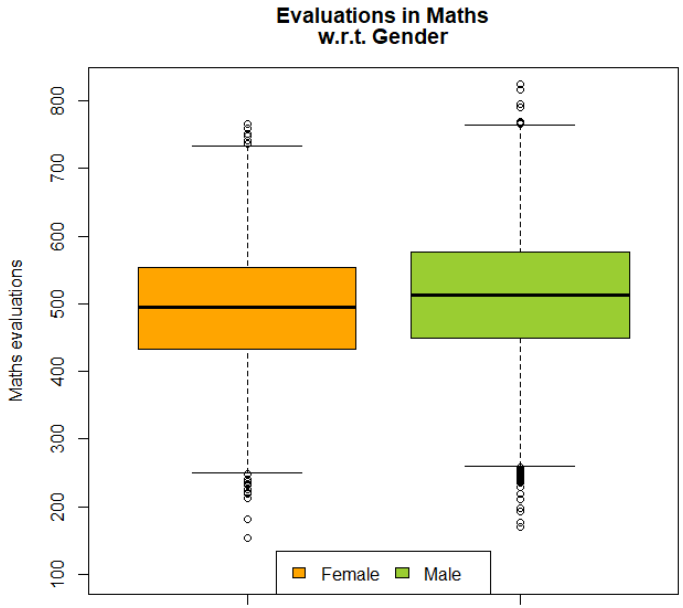

Some problems

Until now, we found these problems:

1. Large number of covariates:
   921 about students, 273 about school
2. A lot of missing values
3. Subjective data

Bibliography

OCED, "PISA Data Analysis Manual", *SPSS, Second Edition*, 2009