Analysis: HS Student Alcohol Consumption in Portugal

Analyze HS student alcohol consumption and determine whether sex, family, or activies affect alcohol consumption

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Data Set Description

The data were obtained in a survey of students math courses in secondary school in Portugal. It contains a lot of interesting social, gender and study information about students.

The dataset was created in 2016 with 41KB and contains 395 students from 15 to 22 years old.
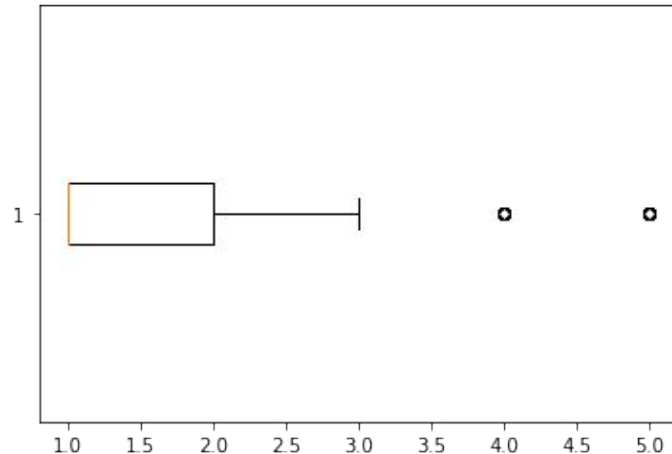
student-mat.csv ✕

111 to 120 of 395 entries

school	sex	age	address	famsize	Pstatus	Medu	Fedu	Mjob	Fjob	reason	guardian	traveltime	studytime	failures	schoolsup	famsup	paid	activities	nursery	higher	internet	romantic	famrel	freetime	goout	Dalc	Walc	health	absences
GP	M	15	U	LE3	A	4	4	teacher	teacher	course	mother	1	1	0	no	no	no	yes	yes	yes	yes	no	5	5	3	1	1	4	6
GP	F	16	R	GT3	T	3	3	services	other	reputation	father	1	3	1	yes	yes	no	yes	yes	yes	yes	no	4	1	2	1	1	2	0
GP	F	16	U	GT3	T	2	2	at_home	other	home	mother	1	2	1	yes	no	no	yes	yes	yes	yes	no	3	1	2	1	1	5	6
GP	M	15	U	LE3	T	4	2	teacher	other	course	mother	1	1	0	no	no	no	no	yes	yes	yes	no	3	5	2	1	1	3	10
GP	M	15	U	GT3	T	2	1	health	services	reputation	mother	1	2	0	no	no	no	yes	yes	yes	yes	yes	4	2	1	1	5	8
GP	M	16	U	GT3	T	4	4	teacher	teacher	course	father	1	2	0	no	yes	no	yes	yes	yes	yes	no	5	4	4	1	2	5	2
GP	M	15	U	GT3	T	4	4	other	teacher	reputation	father	2	2	0	no	yes	no	yes	yes	yes	no	no	4	4	3	1	1	2	2
GP	M	16	U	GT3	T	3	3	other	services	home	father	2	1	0	no	yes	no	yes	yes	yes	yes	no	5	4	2	1	1	5	0
GP	M	17	R	GT3	T	1	3	other	other	course	father	3	2	1	no	yes	no	yes	yes	yes	yes	no	5	2	4	1	4	5	20
GP	M	15	U	GT3	T	3	4	other	other	reputation	father	1	1	0	no	no	no	no	yes	yes	yes	no	3	4	3	1	2	4	6

Dataset: https://www.kaggle.com/uciml/student-alcohol-consumption

Some Statistics Aspects

Most of the students consume very little alcohol. The median is 1 unit and the mean is 1.48 units (1: very low - 5: very high)

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Min.    :1.000
1st Qu.:1.000
Median :1.000
Mean    :1.481
3rd Qu.:2.000
Max.    :5.000
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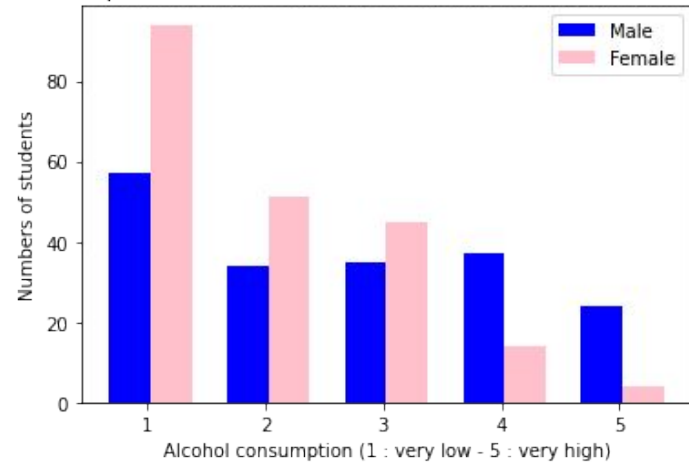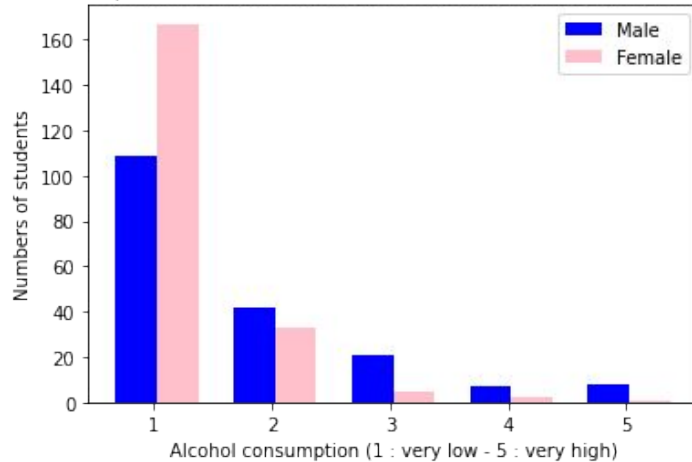

However, there are some students consume very high amounts of alcohol, revealed by the outlier in the boxplot.

The legal drinking age in Portugal is 18, so it is normal considering the data is collected from students 15 to 22 years old.

Alcohol Consumption Between Males and Females

Alcohol consumption between male and female consume alcohol during weekday.   Alcohol consumption between male and female consume alcohol during weekend.
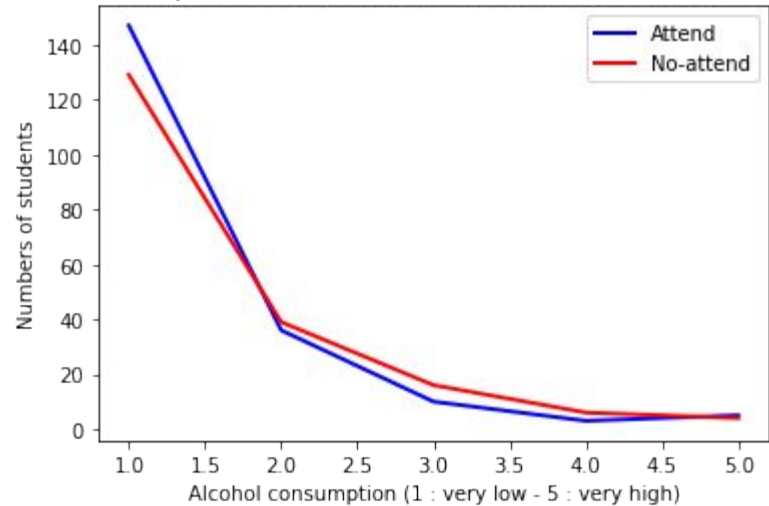

Overall, females consume less alcohol than male. However, females consume more alcohol at level low and average more than male during the weekend.

Alcohol Consumption by Extra-Curricular Activities

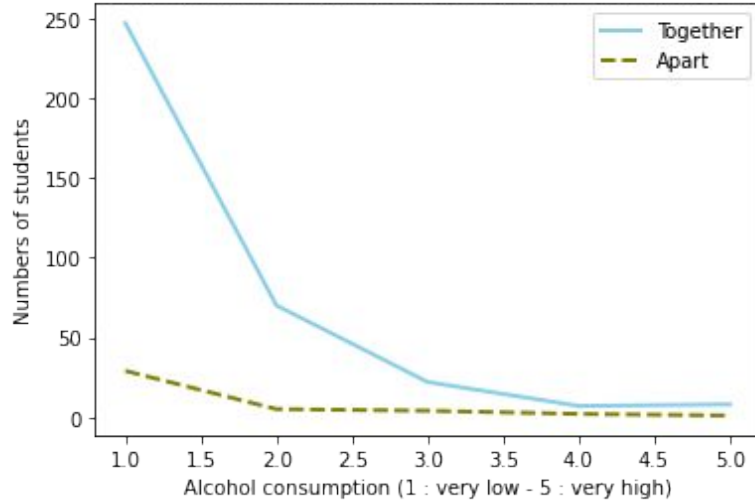Students who do not attend extra-curricular activities consume slightly more alcohol.

However, at the very high level of alcohol assumption, students who attend extra-curricular activities consume slightly more alcohol than those who do not attend extra-curricular activities.

Alcohol assumption between students attend extra-curricular activities.

Alcohol Consumption by parent's cohabitation status

Alcohol consumption between students by parent's cohabitation status.

Parent's cohabitation does not affect the student's alcohol consumption.
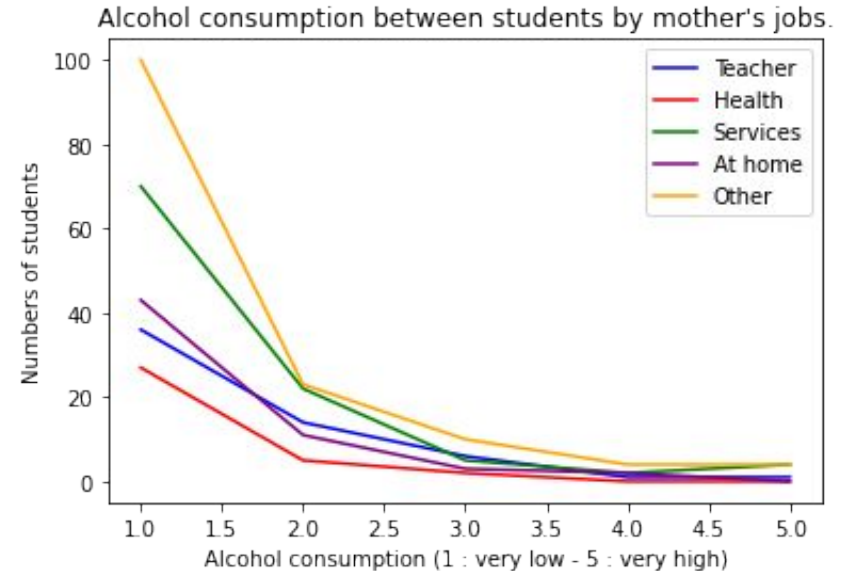
At first, I assumed students whose parents are divorced would consume more alcohol. Contrary to this, at the high and very high rates of alcohol consumption, students whose parents are divorced barely consume alcohol.

Alcohol consumption by mother's jobs

Students whose mother works in the health field consume the least alcohol. I think those students are taught about alcohol by their mothers.

Students whose mothers are teacher or stay at home also have low level of alcohol assumption.

'Other' has highest rate but it contains many other occupations so we cannot conclude much about that. I think the mother's job affects the student's alcohol consumption.

Alcohol consumption between students by mother's jobs.

Python source code

https://colab.research.google.com/drive/16RIuecwBGtv5Fa-_icIGFWKBK4a7jhtF?usp=sharing