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Project Report | STAE04 Data Visualisation

2021-01-10

Introduction

I decided to use a data set from the European Social Survey (ESS) and merge it with the results of the Swedish election that happened before the survey. The ESS an Europe-wide survey, which measures attitudes, beliefs and behaviour patterns. For the surveys a cross-sectional representative sample is collected. For this project I will focus on data related specifically to Swedish parties and attitudes of the their potential voters. The following variables are included:

Table1: Variables in the data set

Variable	Description
Party	Name of the party the respondent voted last election
Trust in Politicians	Categorical response with 3 levels
Age	Age of the respondent
Religiousness	Likert scale from 0-10 min to max
Gender	Male or Female
Happiness	Likert scale from 0-10 min to max
Health	Health of the respondent from very good to very bad
Caring for Others	Ordinal in 6 steps from very much to not at all

The idea is to see if the respondents differ among each other or grouped based on the party they are voting according to their response.

Analysis

First, a look at how people voted in the election before this survey in comparison with how the respondents in the survey round 8 answered. Note that everyone who did not answer or answered that they wouldn't vote is not represented in these proportions, similar to non-voters in the last election.

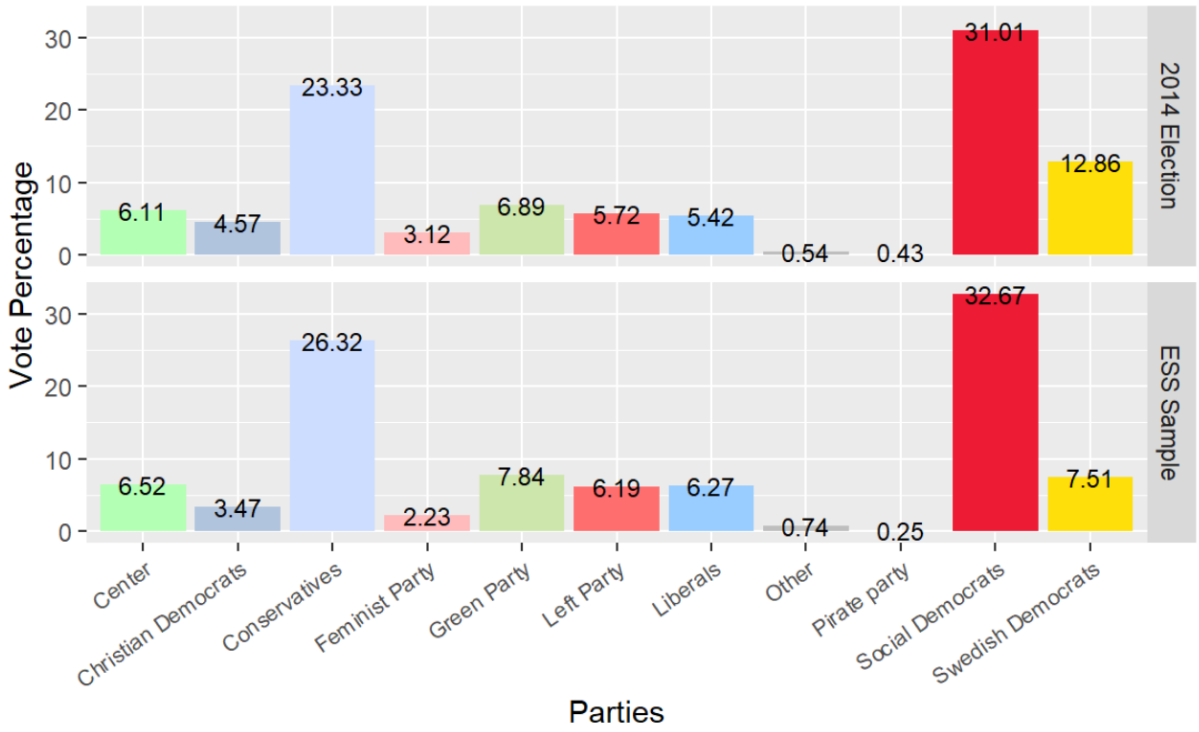

Figure 1Comparison of Voting Proportions from the Sample and the Election before the Survey using a Natural Colour Palette

As we can see from the graph above, the outcomes are very similar between the historic election and the survey respondents with only a few percent between the results. The notable exception is the result for the Sweden Democrats party. Due to the party being fairly controversial there might be a stigma associated in voting for them which potentially prevents some survey respondents from answering truthfully or refuse to answer the question or answering that they are not voting. This is something that should be considered when exploring the other findings within the data set.

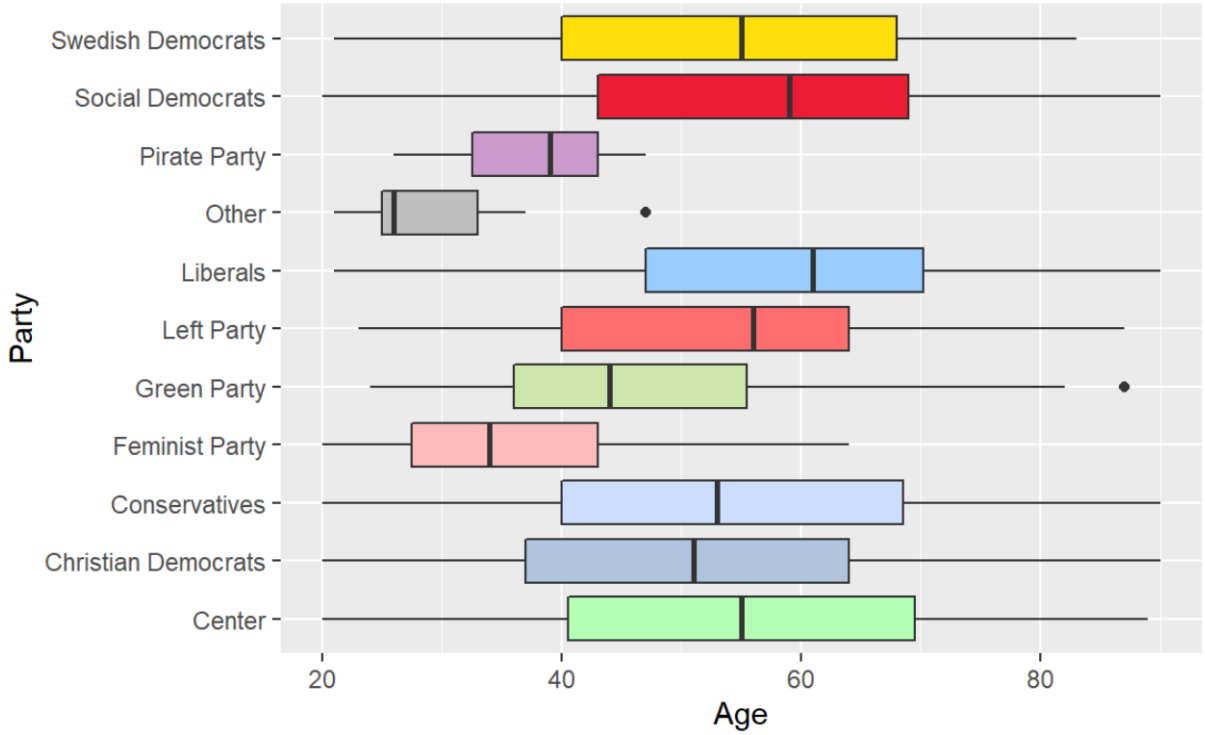

Figure 2Boxplot of the Parties and the Age of their Voters

From the above plot we notice that younger people seem to be more likely to vote smaller and special interest parties, such as the Pirate Party, or the Feminist Party and also even smaller parties here only represented under the Other label. It is to note however, that the number of respondents that claim to vote for these party is a small absolute number, which might not be representative. Even the Green Party seems to attract younger people.

Furthermore, it was of interested how the voters of the parties differentiate by certain personality traits. One question in the survey asked how religious the respondents considered themselves to be. Not unexpectedly there are some differences between the parties when it comes to this subject even in a secular country like Sweden. As the following figure shows the voters of the Christian Democrats considers themselves more religious than the voters of other parties. Very unreligious are voters of the Pirate Party, the Green Party, the Left Party and the Others.

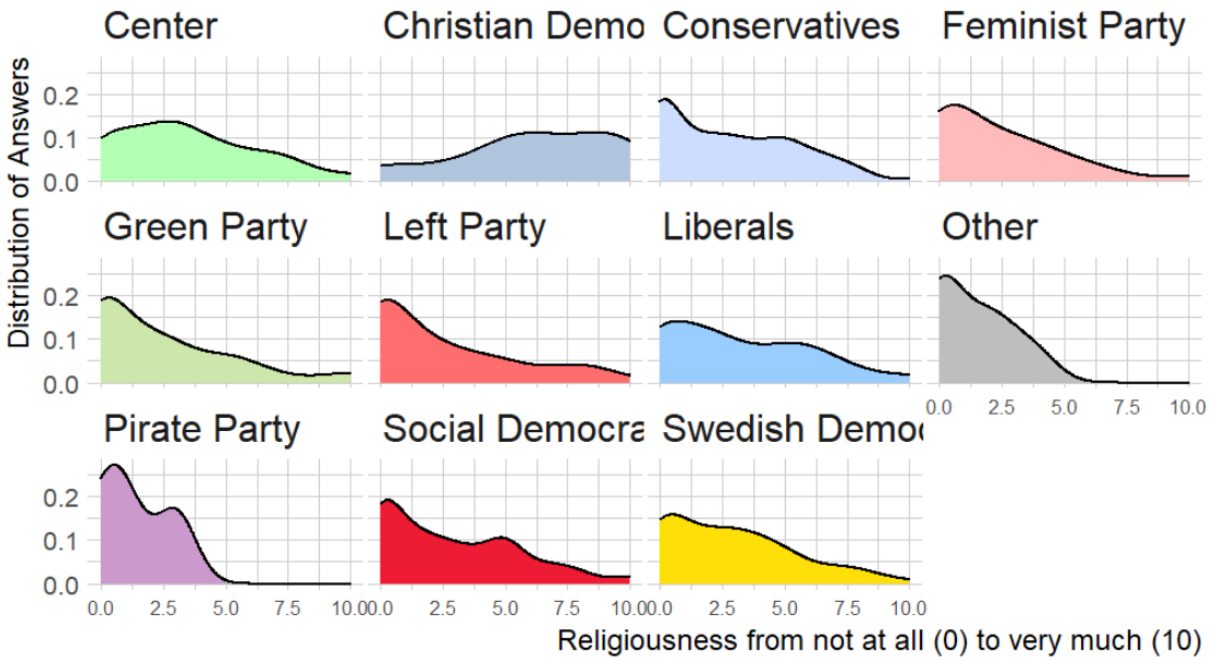

Figure 3Respondent Religiousness perParty

To potentially get an idea why someone votes which party it was investigated how the happiness of the respondents and their health are associated with the party they vote as can be seen in the following figure:

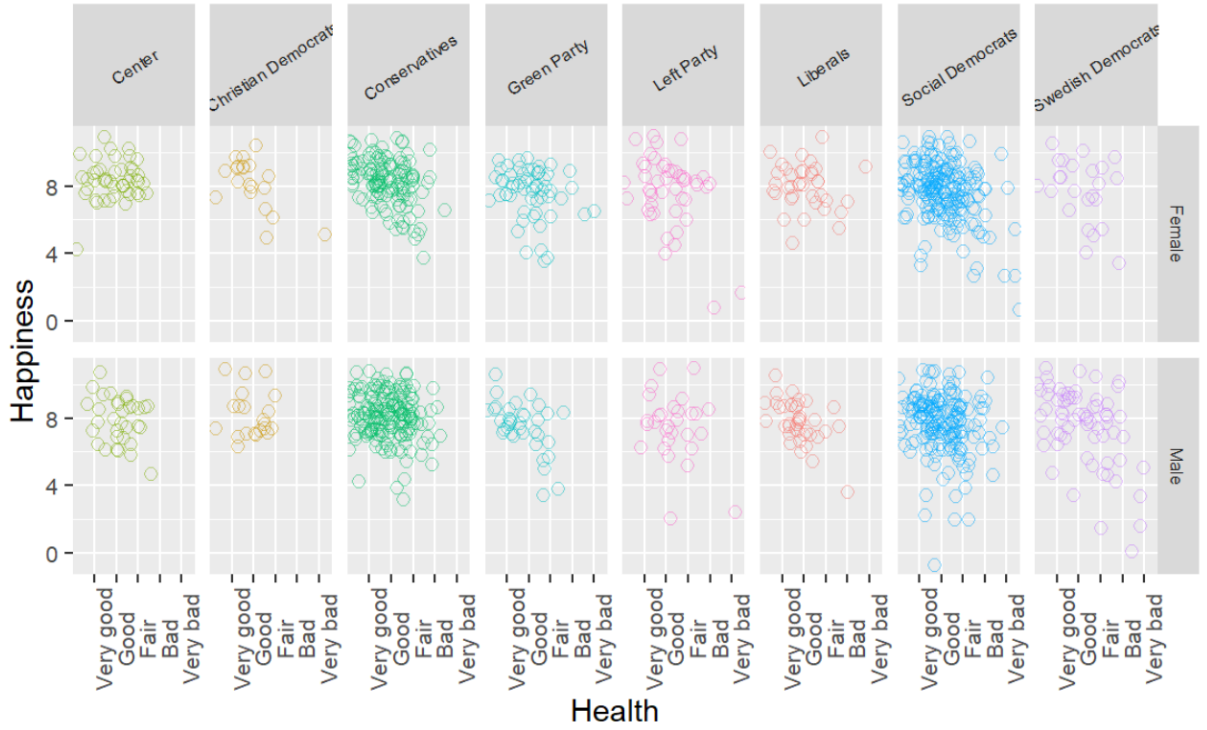

Figure 4Happiness and Health of Respondents in relation to the Party voted

It can be seen that most parties tend to have their voters located roughly in the top left corner, meaning they are rather happy and healthy. Generally females seem to consider themselves to be slightly less healthy, while males are more unhappy. Especially voters of the Social Democrats and Sweden Democrats are more unhealthy and unhappy. It also tells us that unhealthy respondents tend to be unhappy.

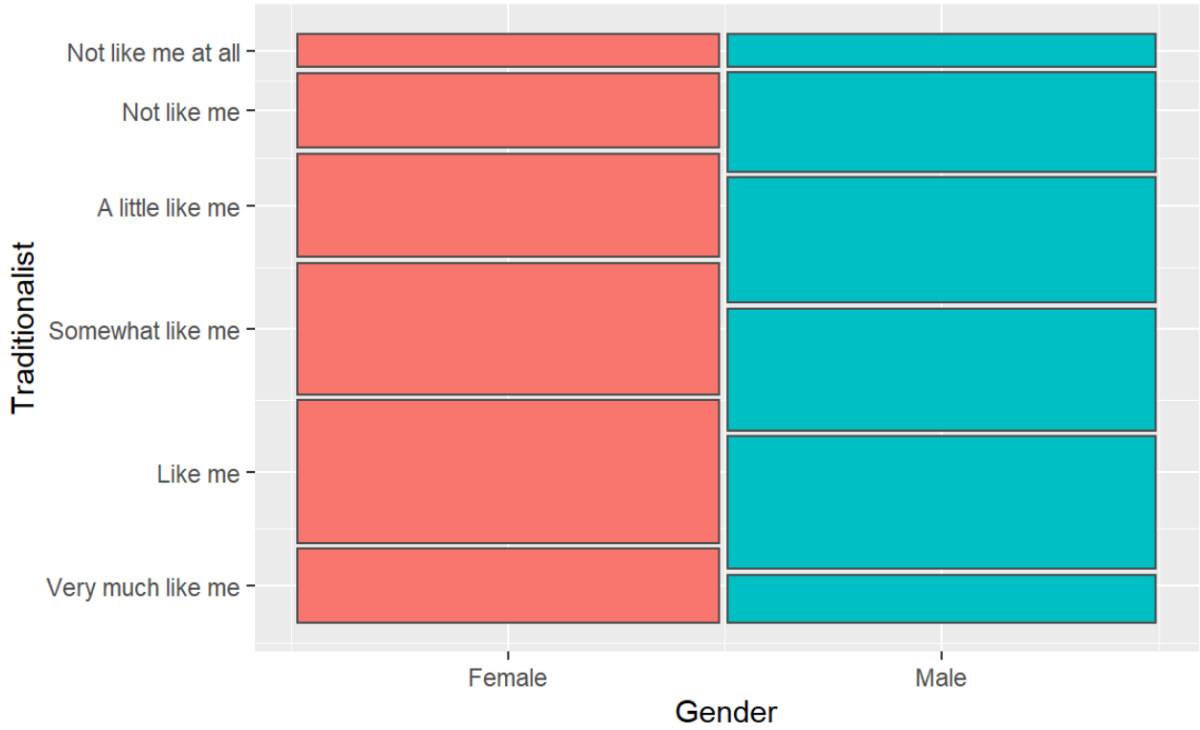

Figure 5Traditionalism across Genders

The product plot above shows us one of the differences in attitudes within the respondents based on gender even if the difference is not very big, it is consistent along all levels except the "not at all" level. It shows that the females in the sample consider themselves to be more traditionalist.

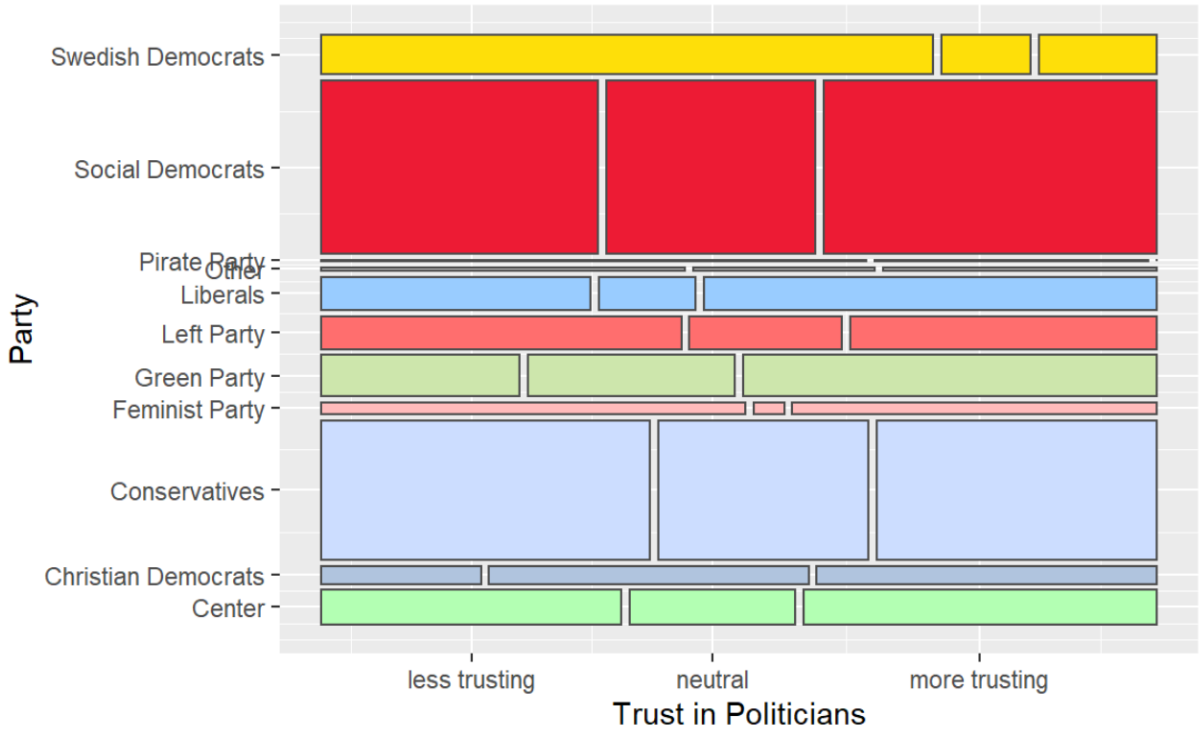

Figure 6How much the Voters of the different Parties trust Politicians

Figure 6 demonstrates some clear differences in how much trust the voters of different parties have in politicians. While the voters of the Green and the Liberal Parties are

more trusting than the others the opposite is true for the Sweden Democrats voters. The Pirate Party is also extreme in this figure but this is most likely to the very small number of respondents in the sample who vote this party.

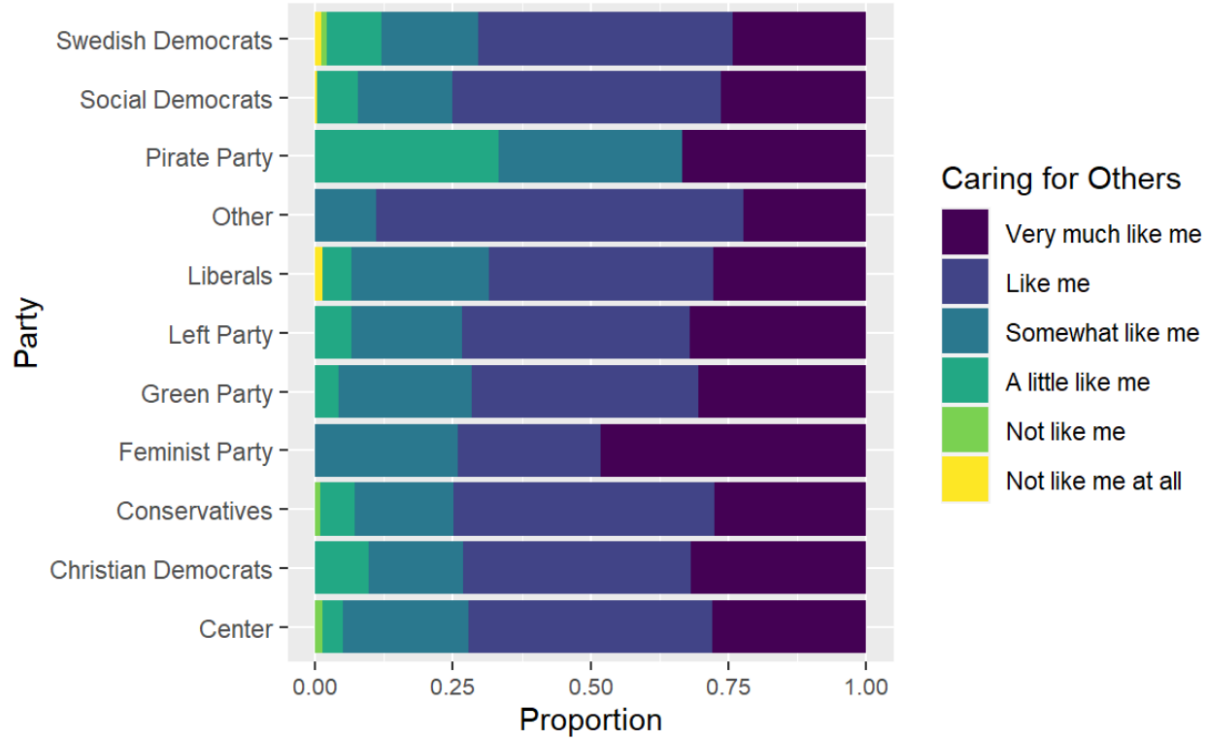

Figure 7How caring Voters of the different Parties consider themselves to be

From the above figure we can see that the only parties that had respondents claiming that they do not care at all for others are the Liberals and SD. On the other end of the spectrum voters of the Feminists seem to be very caring about other people. The results of the Pirates and Feminists however are based on very few respondents.

Conclusion

The analysis indicates that there are differences in attitudes based on parties but also on gender. Also age seems to play a role in which party people vote. While for each of the variables we looked at many of the parties voters were similar there were always some parties sticking out based on the question asked or their demography. One could also drill down more into what gender difference are existing within the other variables for example.

There are probably many more associations/correlations in this data set and the ESS offers many more data points that a researcher can pick and choose how he/she likes. For example how voting behaviour changes at different education levels and so on.