

HOMEWORK 4

DSC 465 DATA VISUALIZATION

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Question 1

For Question 1, I am using the project dataset, i.e. “The World Happiness Report”. The dataset consists of 12 variables and about 783 rows, the parameter of interest here is Happiness_Score. All the other variables in the dataset are evaluated based on Happiness_Scores, i.e. which factor is responsible for the estimation of happiness scores of the countries listed in the dataset.

I have selected two variables, Social_Support and Freedom to analyse the relation between these variables with the happiness scores. For implementing this I have used Contours plot.

Visualization 1:

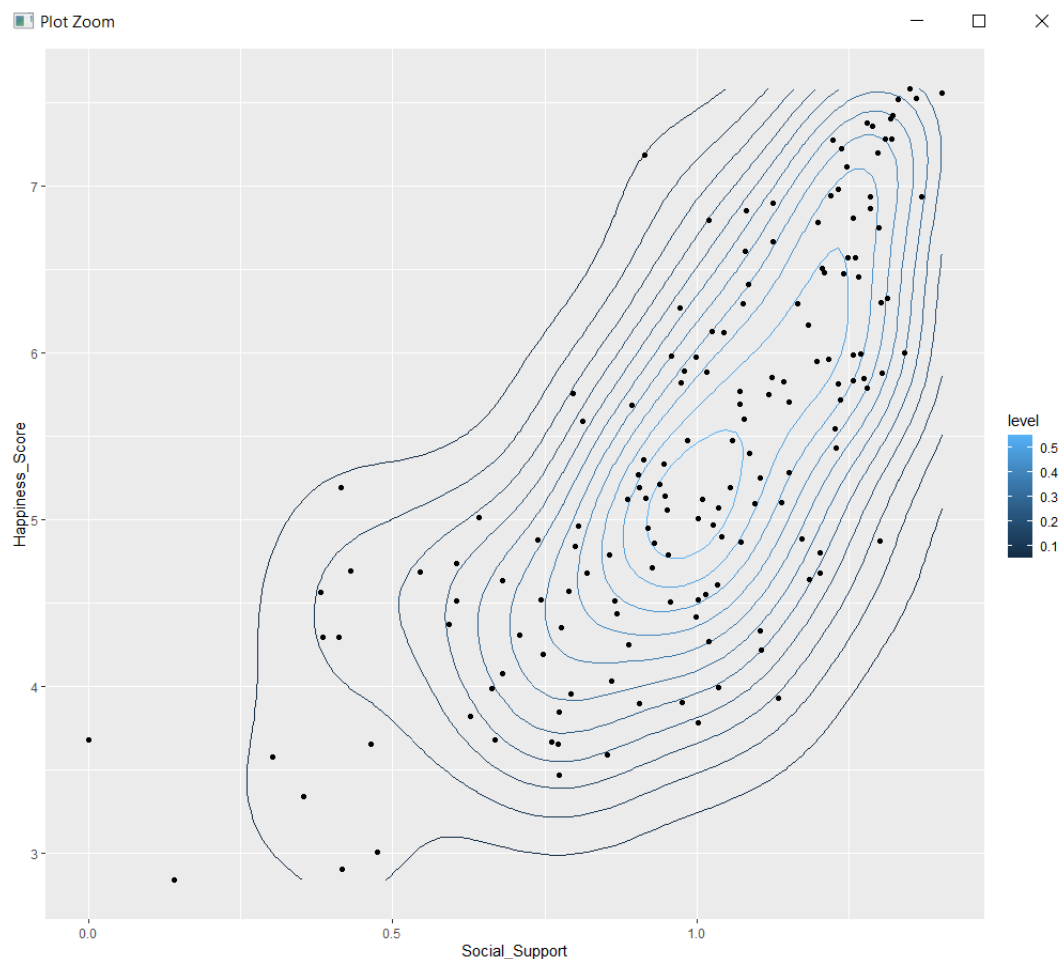


Figure 1.0

The granularity of the plot is moderate, where the region towards the centre has more connections between the points. This shows that the place where the social support is high the happiness levels have increased, and has a level of 0.5. On the other hand the regions where the points are not closely bound or attached to each other, the contour lines are spread and not closely to each other.

Visualization 2:

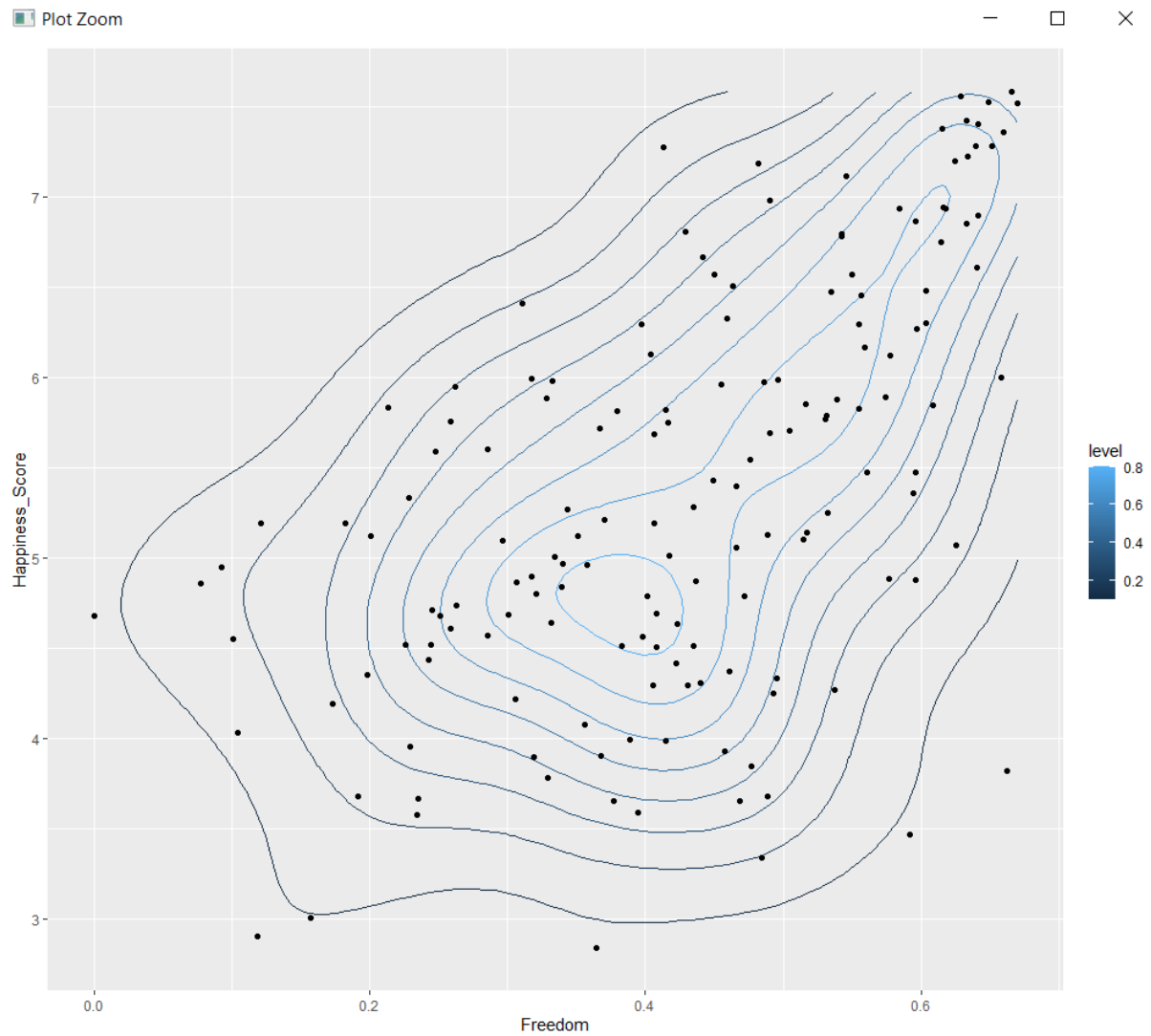


Figure 1.1

In the above figure, similar pattern can be found out, the region towards the centre and the places where the points are more closely attached, the freedom to happiness score level is more (0.6-0.8). And the regions where the points are far and not closely bound represent less freedom to happiness_score level, i.e. (0.2-0.4).

Question 2:

For this question I have used TABLEAU, where I have visualized the relation between Freedom and Trust for the government based on years, using area plot (discrete colour plot).

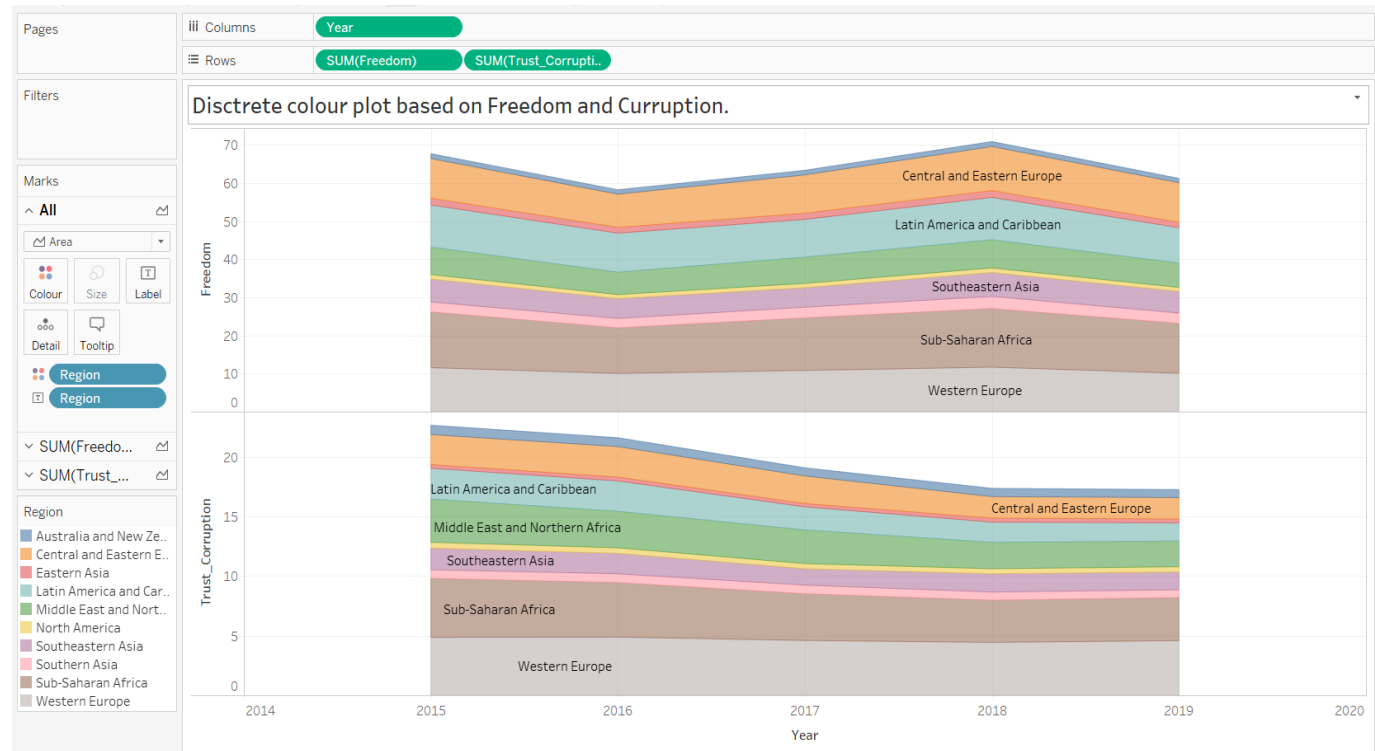


Figure 2.0

The above plot is a representation of Freedom and Corruption, based on regions during the period of year 2015-2019.

Starting with freedom, we can interpret that the freedom has decreased in 2016 in Australia and New Zealand, Central and Eastern Europe, Eastern Asia, Latin America and Caribbean, Middle East and Northern Africa, South-eastern Asia and Southern Asia. However, we do not find a decrease or increase to a greater extent in Sub-Saharan African or Western Europe region. The freedom has increased gradually in all these regions, from 2016 to 2018 and experiencing a gradual descend in the year 2019.

On the basis of the pattern generated by the area plot, we can assume/interpret that the freedom of the regions keeps fluctuating yearly, from high to low.

Talking about plot two, Trust_Corruption there is a relatively different pattern that can be seen in the graph. The trust on the government has been reducing till year 2018, and becomes steady or uniform from 2018 to 2019. This shows that in the year 2015 people had higher levels on the trust_corruption, meaning people were confident that the government is corrupt. On the other hand, the trust_corruption is reduced after 2015 and the pattern becomes uniform by the year 2019.

The data here is aggregated so that proper visualization can be displayed.