

Food Consumption Characteristics of the European Union

0. General

The present dashboard intends to maximize the number of available interactions and options for the user. In total there are six visualizations with all of them allowing interaction with the user. The individual parts are explained in more detail below.

1. Food Consumption per country

In the first visualization, the eating and drinking habits (kilograms per capita per year) are displayed through a geo map while illustrating the countries with the highest and lowest consumption of the chosen food category which is dependent on the subject that the user eagers to analyze. Besides, showing the mean and standard deviation offers the user more intuition to better understand the average consumption of the chosen nutrition category.

2. General Health Information per Country

Next, the bar chart displays the difference between the countries in term of health issues as well life expectancy and health expenditure of the respective country. The exhibition of the differences regarding the variables mentioned provokes further questions that can be a subject of discussion and research. For instance, the high variation in cardiovascular death rates despite identical results in terms of obesity and health expenditure where obesity hints at the food consumption and exercise habits while health expenditure exposes the priority of health for the government as well as the economic aspects of the respective country.

3. Health Issues and Food Categories

Subsequent to the map, a heatmap has been developed to investigate the correlations between the five health issue variables, which are obesity, diabetes prevalence, cardiovascular death rate, life expectancy and health expenditure, and the eighteen food variables. The results prompt a set of new research questions that entail the interrelationship of each food category with the health variables listed.

4. Correlation Between Food Consumption and Health

Similar to the plot mentioned previously, this visualization investigates the correlation between health issues and food variables, however, the scatter plot includes a third dimension which is the GDP per capita of the country illustrated as the size of the dots within the scatter plot. In addition to the option of using health and food variables, users are able to choose between boxplots or violin plot. While a box plot only shows summary statistics such as median and interquartile ranges, the violin plot shows the full distribution of the data.

5. K-Means Clustering

Lastly, a clustering has been implemented which consists of two visualizations. On the left, users can select the clusters to inspect while on the right the resulting clusters can be compared with respect to a chosen variable. The clusters intend to minimize the amount of information by categorizing similar data items together which facilitates interpretations, while at the same time finding similarities between countries.