

Do the foods we nourish our bodies with have a direct correlation with COVID deaths across countries?



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Research Project Questions

1. What is the relationship between COVID-19 infection and death rates and factors generally understood to be associated with health issues, including obesity, and alcohol consumption?
2. Are there any strong correlations between different types of food and COVID-19 cases?
3. What are the dietary compositions of the countries with the highest and lowest COVID cases per capita?

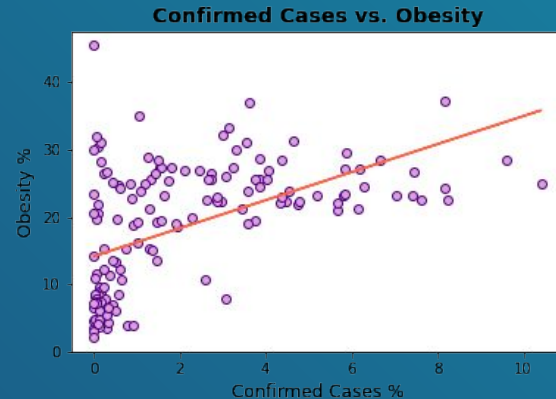


Adverse Health Factors and COVID-19

Strongest Correlation with Adverse Health Factors and Covid -19

Analysis Based on Obesity Percentages

- Obesity is the most strongly correlated with COVID-19 cases with a correlation coefficient (CC) of .53 for confirmed cases
- .49 for confirmed deaths.





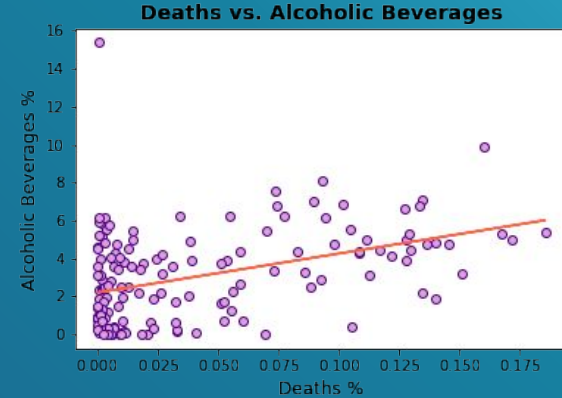
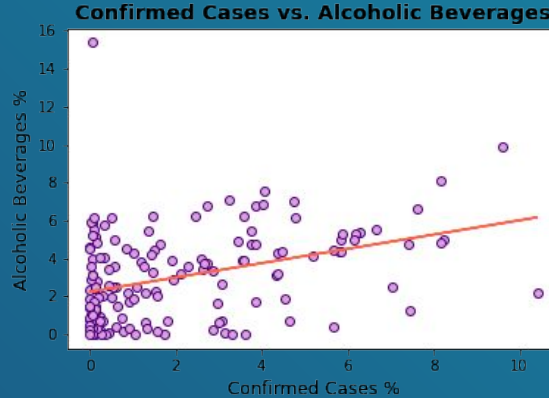
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Alcohol Consumption and COVID-19

Correlation Between Alcohol Consumption and Covid -19

Analysis Based on Alcohol Consumption Percentages

- Alcohol correlation coefficient with COVID-19 deaths is .42
- Alcohol correlation coefficient with COVID-19 confirmed cases is .37





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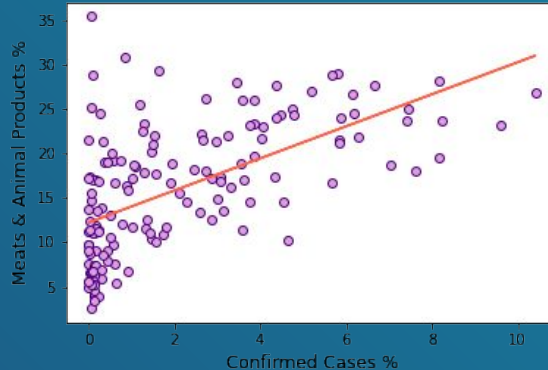
Food Group Intake and COVID-19

Strongest Food Group Correlation with COVID -19

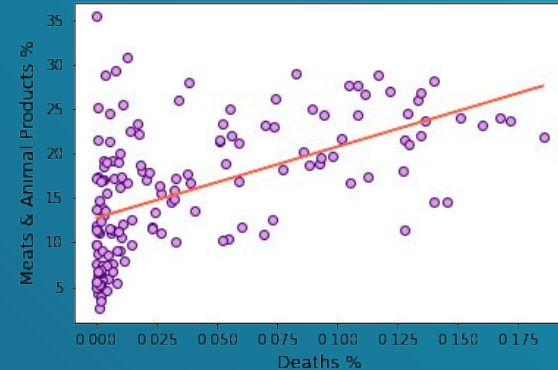
Analysis Based on Meats and Animal Products Percentages

- The strongest correlation lies with countries that consume the most Meats and Animal Products, with a CC of .59 for confirmed cases
- .54 for deaths.

Confirmed Cases vs. Meats & Animal Products



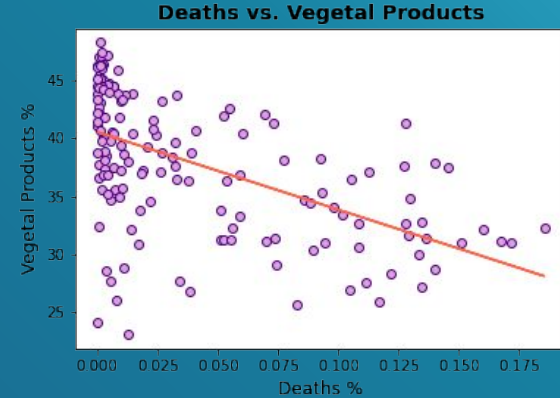
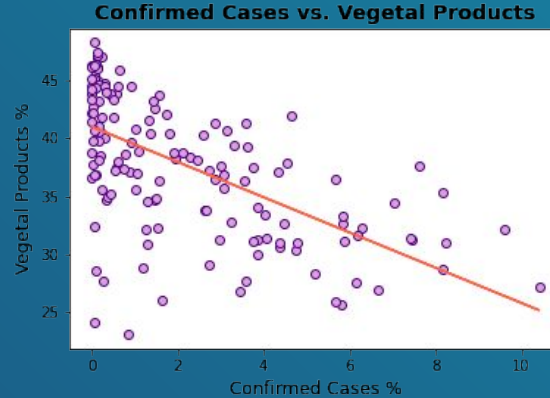
Deaths vs. Meats & Animal Products



Strongest Negative Food Group Correlation with COVID -19

Analysis Based on Vegetal Products Percentages

- The strongest negative correlations were with vegetal products, with correlation coefficients of -0.60 for confirmed cases
- -0.55 for deaths.





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Countries with Highest and Lowest Deaths and Confirmed Cases with COVID-19

Countries with Highest and Lowest COVID-19 Deaths



Analysis Based on Death Percentages

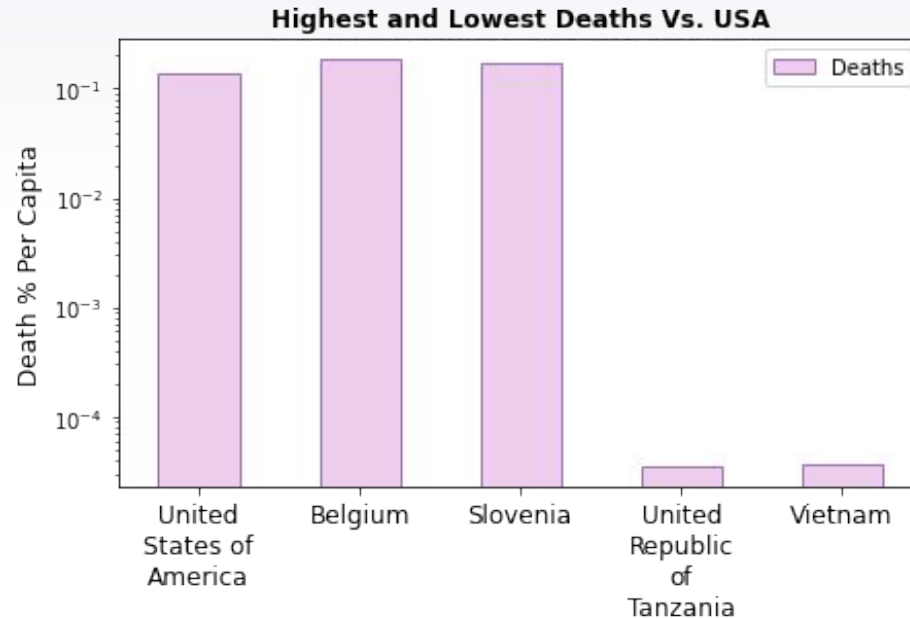
Countries with the most deaths:

- Belgium (0.185428)
- Slovenia (0.171755)

Countries with the least deaths:

- United Republic of Tanzania (0.000035)
- Vietnam (0.000036)

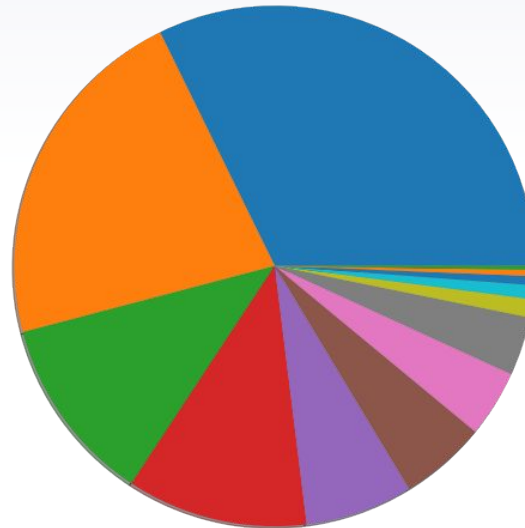
USA (for reference): 0.140103



Belgium (highest deaths) and COVID-19 Food Intake



Belgium Diet



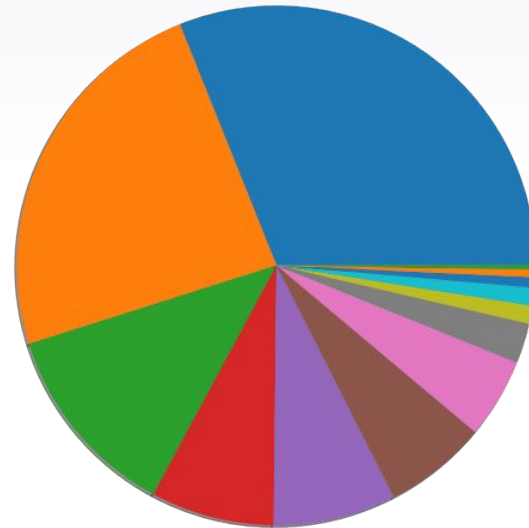
Belgium Analysis

- Vegetal Products is the highest consumed
- Meats & Animal Products came in second (highest correlation)
- Milk is the third consumed. Our findings showed that milk was the second highest correlation coefficient with countries that had high COVID-19 cases.

Slovenia (second highest deaths) and COVID-19 Food Intake



Slovenia Diet



Food Categories

Vegetal Products	31.1%
Meats & Animal Products	23.8%
Milk	12.3%
Vegetables	7.7%
Cereals - Excluding Beer	7.6%
Fruits	6.4%
Alcoholic Beverages	5.0%
Sugars	2.5%
Animal fats	1.1%
Other	1.1%
Aquatic Seafood	0.7%
Vegetable Oils	0.5%
Stimulants	0.3%

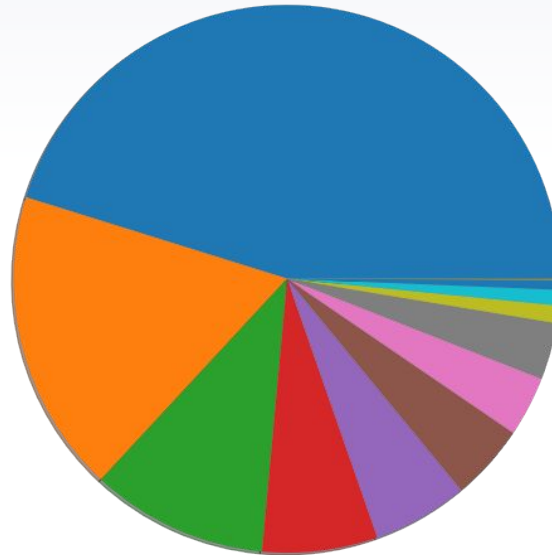
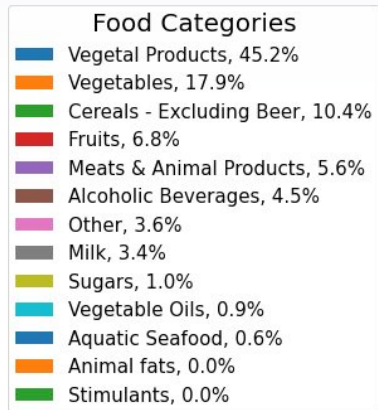
Slovenia Analysis

- Vegetal Products is the highest consumed (highest negative correlation)
- Meats & Animal Products came in second (highest correlation)
- Milk is also the third consumed. Our findings showed that milk was the second highest correlation coefficient with countries that had high COVID-19 cases.

United Republic of Tanzania (least deaths) and COVID-19 Food Intake



United Republic of Tanzania Diet



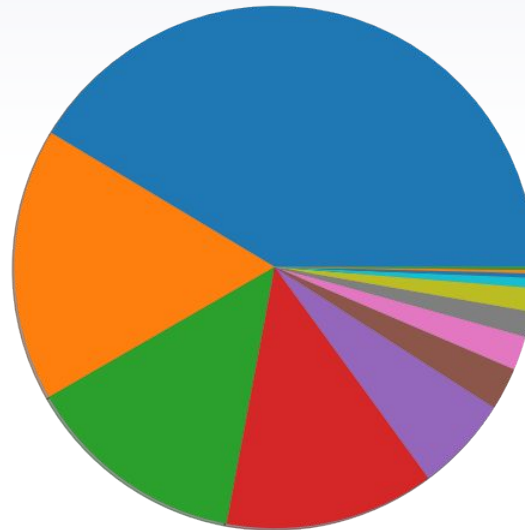
United Republic of Tanzania Analysis

- Vegetal Products is the highest consumed(highest negative correlation)
- Cereals came in third. Our findings showed that cereals was the second highest negative correlation coefficient with countries that had high COVID-19 cases.
- Meats & Animal Products came in 5th(highest CC)

Vietnam (second least deaths) and COVID-19 Food Intake



Vietnam Diet



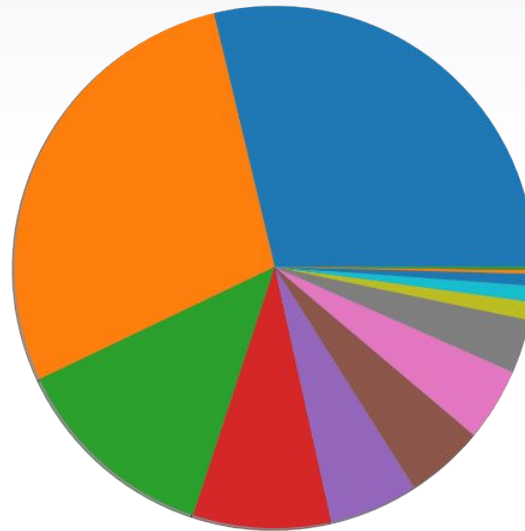
Vietnam Analysis

- High proportions of vegetal products and cereals
- Lower proportions of milk and meat/animal products than countries with highest COVID deaths

United States of America and COVID-19 Food Intake



United States of America Diet




Food Categories	
Vegetal Products	28.8%
Meats & Animal Products	28.3%
Milk	12.9%
Vegetables	8.6%
Cereals - Excluding Beer	5.5%
Alcoholic Beverages	4.9%
Fruits	4.5%
Sugars	3.3%
Aquatic Seafood	1.1%
Vegetable Oils	1.0%
Other	0.7%
Stimulants	0.2%
Animal fats	0.2%

USA Analysis

- USA has the 8th highest COVID deaths per capita
- Lower % of vegetal products and cereals than lowest COVID death countries
- High % of meats/animal products and milk

Conclusion

- ◇ While certain foods and health factors were more strongly correlated with COVID than others, none of these correlation coefficients were particularly high, since a high correlation coefficient is often considered to be .75 or even .90.
- ◇ Some food categories are broad and confusing, including vegetal products, which contains over 30 different food items, many having overlap with other food categories.
- ◇ Are these findings a direct effect of diet, or are other characteristics of a country (such as quality/availability of healthcare and COVID precautions) a result of these trends?



Thank you!
Lea, Angel, and Marissa