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CSP-571 Project

Variable Identification/Representation

**Input Variables**

**Providence:** Functions as the location variable for the analysis, allows differentiation between states for analysis. Qualitative Variable (nominal).

**Version:** Functions as the time variable for the analysis, allows for analysis of changes in output variables over time. Qualitative Variable (ordinal)

**Incident Rate:** Rate of COVID-19 infections within a state. Number of cases per 100,000 persons. Quantitative Variable (ratio)

**Testing Rate:** Rate of COVID-19 Testing within a state. Number of tests per 100,000 persons. Quantitative Variable (ratio)

**Stay at Home Order:** Indicates whether or not a state has issued a stay at home order and when it did so. Qualitative Variable (nominal)

**Mandatory Quarantine for Travelers:** Indicates whether or not a state has required travelers from outside to quarantine themselves, when it did so, and when/if it lifted the order. Qualitative Variable (nominal)

**Non-Essential Business Closures:** Indicates whether or not a state has required non-essential businesses to close, when it did so, and when/if it lifted the order. Qualitative Variable (nominal)

**Large Gatherings Ban:** Indicates whether or not a state has banned large gatherings, when it did so, and when/if it lifted the order. Qualitative Variable (nominal)

**School Closures:** Indicates whether or not a state has closed public schools, when it did so, and when/if it lifted the order. Qualitative Variable (nominal)

**Restaurant Limits:** Indicates whether or not a state has limited restaurant operations and/or occupancy, when it did so, and when/if it lifted the order. Qualitative Variable (nominal)

**Emergency Declaration:** Indicates whether or not a state has declared a state of emergency, when it did so, and when/if it lifted the order. Qualitative Variable (nominal)

**Face Covering Requirement:** Indicates whether or not a state has required face coverings in some capacity, when it did so, and when/if it lifted the order. Qualitative Variable (nominal)

**Output Variables**

**Confirmed:** Number of confirmed COVID-19 cases within a state. Quantitative Variable (ratio)

**Deaths:** Number of deaths attributed to COVID-19 within the state. Quantitative Variable (ratio)

**Mortality Rate:** Rate of deaths from COVID-19 as a proportion of confirmed cases per 1000 individuals. Quantitative Variable (ratio)

**Hospitalization Rate:** Rate of hospitalizations from COVID-19 per state. Total number hospitalized divided by number of cases. Quantitative Variable (ratio)

The analysis of these variables should be done using parametric methods as opposed to non-parametric methods. This is because parametric methods (while making assumptions regarding the data’s structure) have a greater ability to detect relationships between associated variables.