Correlation of Location, Year, Economic Status, and Demographic Information with Suicide Rate

STAT 420, Summer 2020, Kun Hu, Madeline Old, Yuwen Xiang, Patrick Willhalm 07/17/2020

- Description of data file
- Background on the data set
- Statement of Interest

Description of data file

This file compares the number of suicides per 100,000 across categories stratified by age group, sex, country, and year. There are 27820 observations across 12 variables. Variables include country, year, sex, age group, number of suicides, suicide rate, Human Development Index (HDI) and Gross Domestic Product (GDP).

Background on the data set

This dataset is a compilation of data from the UN Development Program, World Bank, and the World Health Organization. https://www.kaggle.com/russellyates88/suicide-rates-overview-1985-to-2016 (https://www.kaggle.com/russellyates88/suicide-rates-overview-1985-to-2016)

Statement of Interest

Suicide is unique as a public health issue in that it is 100% preventable. Stopping deaths from cancer requires developing new cancer drugs, but suicide is a social and economic rather than technical problem. Here we intend to find the correlation among different social status (includes year, sex and age) and the economic situation with the suicide rate with an eye toward suicide prevention. Depending on social status, we may find some causal links with suicide risk.

```
suicide <- read.csv('master.csv') %>%
  as_tibble(.)
summary(suicide)
```

```
##
     country
                         year
                                      sex
                                                       age
  Length:27820
                    Min. :1985
                                Length: 27820
                                                  Length:27820
##
   Class : character
                    1st Qu.:1995 Class: character Class: character
##
  Mode :character
                    Median :2002 Mode :character Mode :character
##
##
                    Mean :2001
                    3rd Qu.:2008
##
                    Max. :2016
##
##
                                   suicides.100k.pop country.year
##
    suicides no
                   population
        : 0
                 Min. :
                             278
                                   Min. : 0.00
                                                  Length:27820
##
   Min.
   1st Qu.:
             3
                1st Qu.:
                           97498
                                   1st Qu.: 0.92
                                                  Class :character
##
##
   Median: 25 Median: 430150 Median: 5.99 Mode:character
   Mean : 243 Mean : 1844794 Mean : 12.82
##
  3rd Qu.: 131 3rd Qu.: 1486143 3rd Qu.: 16.62
##
  Max. :22338 Max. :43805214 Max. :224.97
##
##
                                   gdp per capita.... generation
   HDI.for.year
                 gdp for year....
##
##
  Min.
         :0
                 Length:27820
                                   Min. :
                                            251
                                                    Length: 27820
                 Class :character
                                   1st Qu.: 3447
##
  1st Ou.:1
                                                    Class : character
  Median :1
                 Mode :character Median : 9372
                                                    Mode :character
##
##
  Mean :1
                                   Mean : 16866
  3rd Ou.:1
                                   3rd Ou.: 24874
##
  Max. :1
                                   Max. :126352
##
   NA's :19456
##
```

suicide

```
## # A tibble: 27,820 x 12
##
    country year sex age suicides no population suicides.100k.p...
            <int> <chr> <chr>
     <chr>
                                     <int>
                                                 <int>
                                                                   <dbl>
##
  1 Albania 1987 male 15-2...
                                                                    6.71
                                         21
                                                 312900
##
   2 Albania 1987 male 35-5...
                                        16
                                                308000
                                                                    5.19
   3 Albania 1987 fema... 15-2...
                                                                    4.83
                                        14
                                                289700
##
   4 Albania 1987 male 75+ ...
                                         1
                                                 21800
                                                                    4.59
##
##
  5 Albania 1987 male 25-3...
                                          9
                                                274300
                                                                    3.28
   6 Albania 1987 fema... 75+ ...
##
                                          1
                                                 35600
                                                                    2.81
## 7 Albania 1987 fema... 35-5...
                                          6
                                                 278800
                                                                    2.15
   8 Albania 1987 fema... 25-3...
                                                                    1.56
                                          4
                                                 257200
  9 Albania 1987 male 55-7...
                                                                    0.73
##
                                          1
                                                137500
## 10 Albania 1987 fema... 5-14...
                                          0
                                                 311000
## # ... with 27,810 more rows, and 5 more variables: country.year <chr>,
      HDI.for.year <dbl>, gdp_for_year.... <chr>, gdp_per_capita.... <int>,
## #
      generation <chr>>
```