Review of: "A Multi-factor Model of COVID-19 Epidemic in California"

Francis Tuluri[1]

1 Jackson State University

Potential competing interests: No potential competing interests to declare.

1. Needs reorganization of the manuscript - number each section of the script and sub sections if any under each section
2. Replace the section title ‘What Is a Multi-factor Model?’ by Introduction
3. In the abstract section: rephrase the sentence ‘ We also find that infection rate varies highly and roughly obeys a normal distribution, suggesting randomness, rather than correlation with one or more of the 5 factors.’ - highly and roughly are not scientifically measurable
4. Provide a sample of the data set
5. Add descriptive statistics table
6. Rephrase ‘multi factor’ ad multivariate
7. in the methods and models section, move the following

Linear predictor equations use correlated factors to predict key parameters of the epidemic. They are similar to the Fama-French equations used in finance to value a stock. Let P(x) be a linear predictor equation as follow:

( )= (,)/Σ

where,

(,)= Σ 5 =1

Σ = Σ 5 =1; value of factor, correlation coefficient

The correlation coefficients for cumulative cases and duration are listed in Table II. The correlation coefficients ci were tested to determine the best fit for the data. Population and income were the major drivers of cumulative infections and duration, with density and size in W(c, x) marginally improving the prediction of cumulative cases.

8) Results section: add confidence intervals for the predicted

9) Results section - We divided the counties into a bottom half and a top half by cumulative cases to determine if counties with a high number of infections were different from counties with low numbers. – provide a sample of the data showing lower and upper half

10) Typo error: 0.208

For cumulative cases:

$$I(x) = \frac{.993x_1 + .082x_2 + .177x_3 + .177x_4 + x.208x_5}{x_1 + x_2 + x_3 + x_4 + x_5}$$

11) Conclusion section : we obtained very high accuracy for cumulative cases and – What is the accuracy value - specify the accuracy values