## COVID-19 Confirmed Cases Final Project Analysis

Your assignment is to analyze the relationship between two sets of scores using the inferential statistical procedure of an independent two sample t-hypothesis test. Using StatCrunch SPSS, you must calculate and analyze both descriptive and inferential statistics data. The data collection in analysis for this final project is aligned with concepts learned during several weeks of this course.

The data you are being provided with relates to information collected pertaining to the current COVID-19 pandemic. You are being asked to analyze this "case" data derived from 3 states California, New York, and Washington state, each row within the states represent confirmed cases by 9 (n=9) counties. The data from each state identifies the actual number of confirmed COVID-19 cases as of late April 2020, your role as a behavioral research assistant is to analyze the data from your choice of only two of these states (choose CA and compare data to either NY or WA) then demonstrate whether or not there is a statistical difference in the number of identified cases between California and either NY or WA state. Critical elements or parts of this final project include knowledge of; descriptive statistics, the statistical cycle of inquiry (inferential set up), and inferential statistics.

Make sure to: **add commas** to numerical values, and ***round two/three decimal*** places. Submit Final project via Canvas upload using a **word document**, **Google doc,** or **PDF** is preferred.

**Descriptive Statistics:**

n, mean, variance, standard deviation, standard error

**Statistical Cycle of Inquiry (includes inferential statistics):**

Experimental Hypothesis, Elements of Design, Statistical Hypothesis, Data Analysis, Conclusion

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| **1.** | Describe (define) each "descriptive" statistic (e.g. the 5 listed above; "n" is the count of the participants or scores in the sample, etc..)? |
| **2.** | List the components of the statistical cycle of inquire (inferential set up). |
| **3.** | Based on your <u>observation</u> (considering the COVID-19 scenario and data in this project) what is your prediction (i.e. experimental hypothesis)? Write if you predict a **difference** or **no difference** between your two chosen states. Remember, the prediction in research comes before you analyze or look at any data (you don't look at basketball game results and then predict a winner☺). |
| **4.** | Elements of design (one-tailed or two-tailed test; one-sample or two-sample; experiment or correlational study)? |
| **5.** | Statistical Hypothesis (i.e translation of experimental hypothesis based on your procedure using symbols; $H_o$ and $H_a$)? |
| **6.** | Data Analysis (i.e. use SPSS to perform statistical calculations: t-obt, t-crit (p.256 textbook), p.value (type I error), copy paste results)? |
| **7.** | Hypothesis Test Conclusion (i.e. Does score fall into the region of rejection; "significant" or "non-significant"; retain or reject Null, etc.; show probability equation found in research literature)? |
| **8.** | Behavioral researcher speculation (i.e. generally your opinion of what "factors" may have contributed to this result; If non-significant how could the "Power" concept help? |