This blog is more study and visualization analysis if those genes that are related to the body systems of our life on a regular maintenance scheme for why our gene expression is driven to express a certain amount every day in maintaining and regulation, compared to states when the body is under three different grades of COVID-19. There are some bar and scatter plots that give more minute details on the demographics of each sample for the age, sample ID, and gender.

<https://public.tableau.com/profile/janis5126#!/vizhome/vitMinSterAllGenesBarchart/vitMinSterAllGenesBarchart?publish=yes>

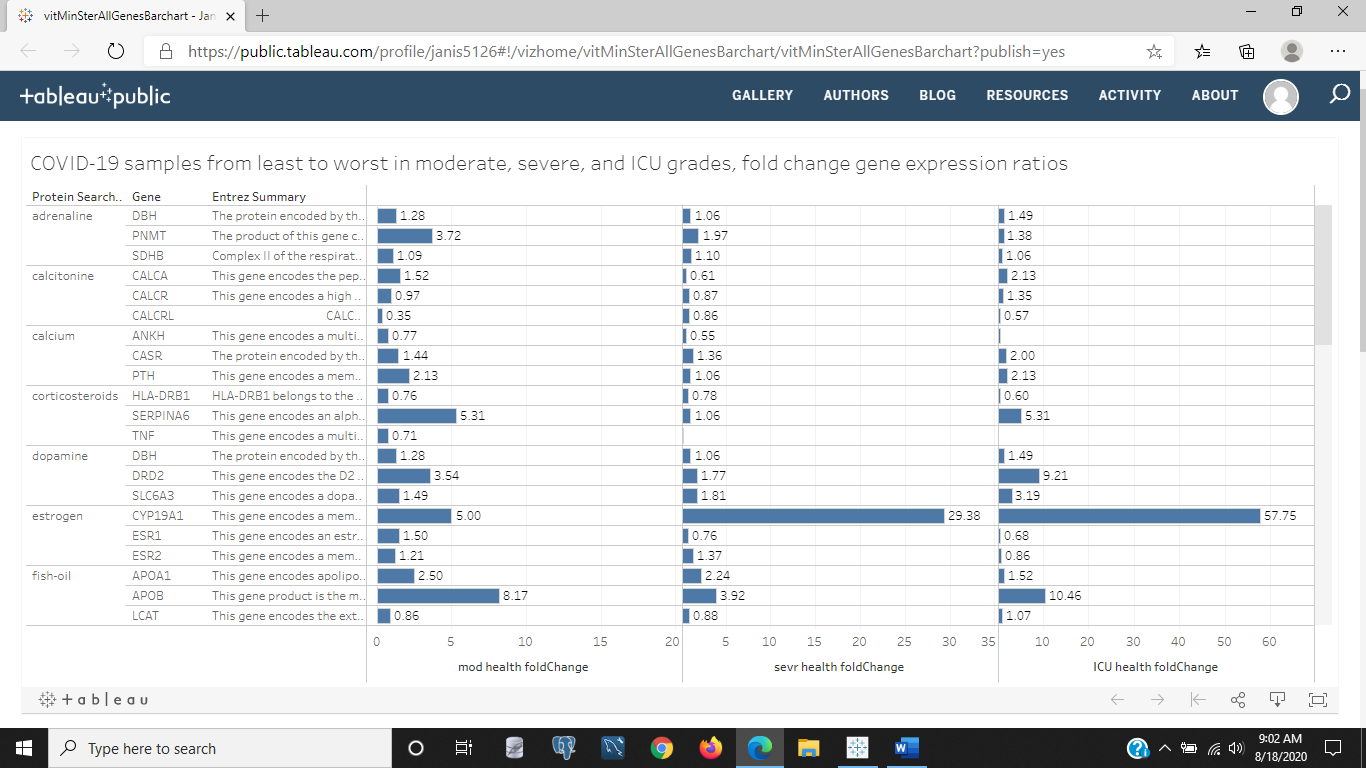


Figure 1: All of our genes' fold change values in moderate (least severe), severe (mid level severe), and ICU (most severe) grades of COVID-19. Some genes within a body system or element don't have a noticeable increase of decrease between grades like the corticosteroids and one dopamine body system element. Some genes also increase or decrease monotonically like two of the dopamine. And some body systems have genes in their three top ranked that increase with severity while some decreasing with severity such as Estrogen.

<https://public.tableau.com/profile/janis5126#!/vizhome/vitaminCovidScatterAgeGender/vitaminCovidScatterAgeGender?publish=yes>

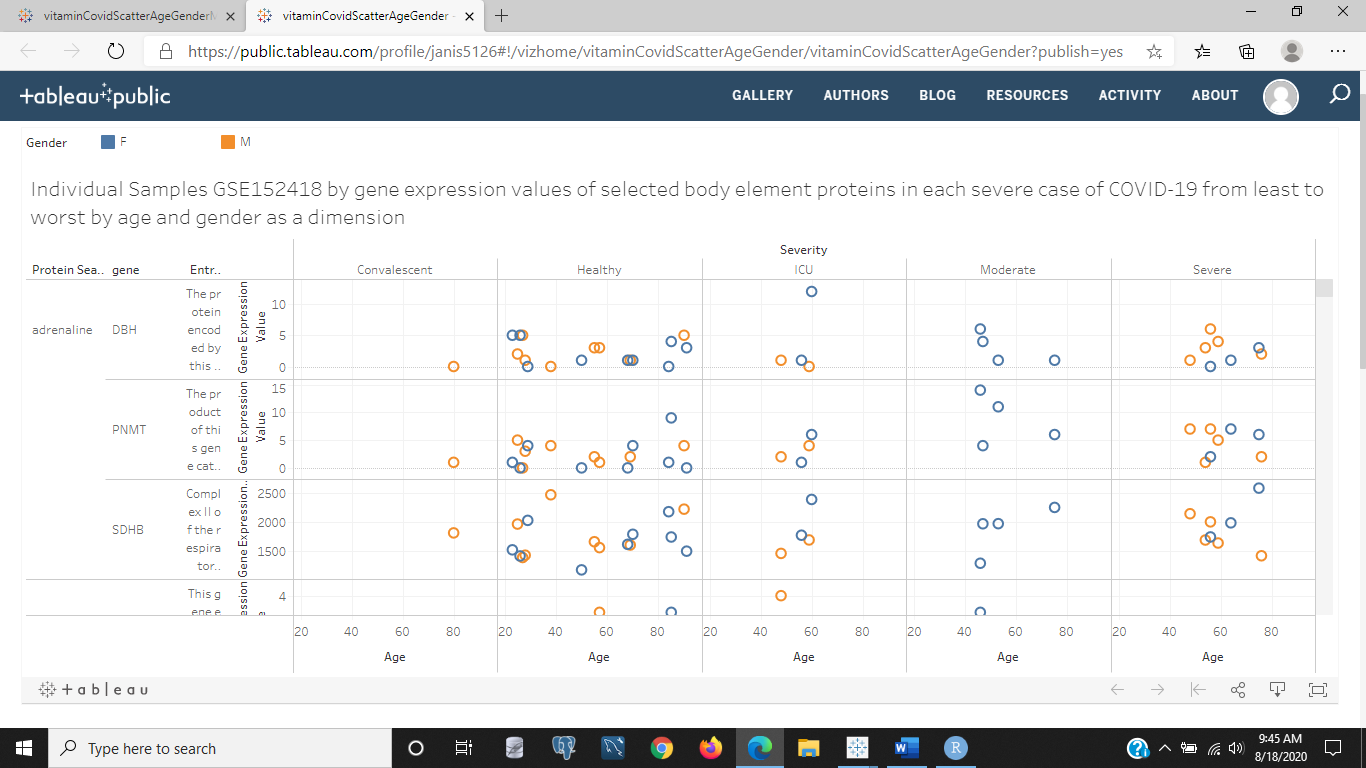


Figure 2: The above image is the scatter plot of all the body system's top three ranked genes for genders and age within each grade of COVID-19. We can see adrenaline for the most part has no pattern in healthy cases, but in females goes up with age in the severe and ICU grades, while down in the moderate cases. The reverse seems to be true for adrenaline in males for two of those three genes in the severe grade only.

<https://public.tableau.com/profile/janis5126#!/vizhome/vitMinSterMonDecrAllGenesBarchart/vitMinSterMonDecrGenesBarchart?publish=yes>

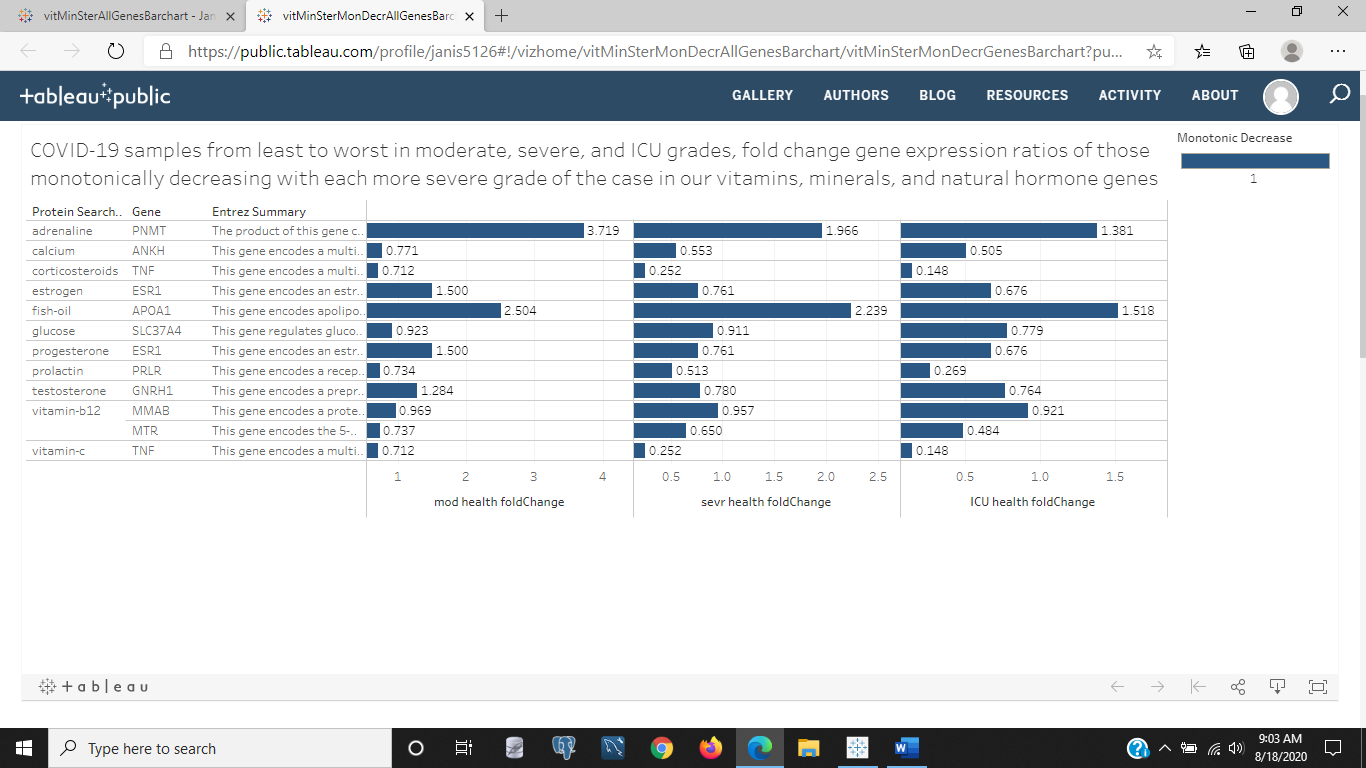


Figure 3:

<https://public.tableau.com/profile/janis5126#!/vizhome/vitaminCovidScatterAgeGenderMonDecr/vitaminCovidScatterAgeGenderMonDecr?publish=yes>

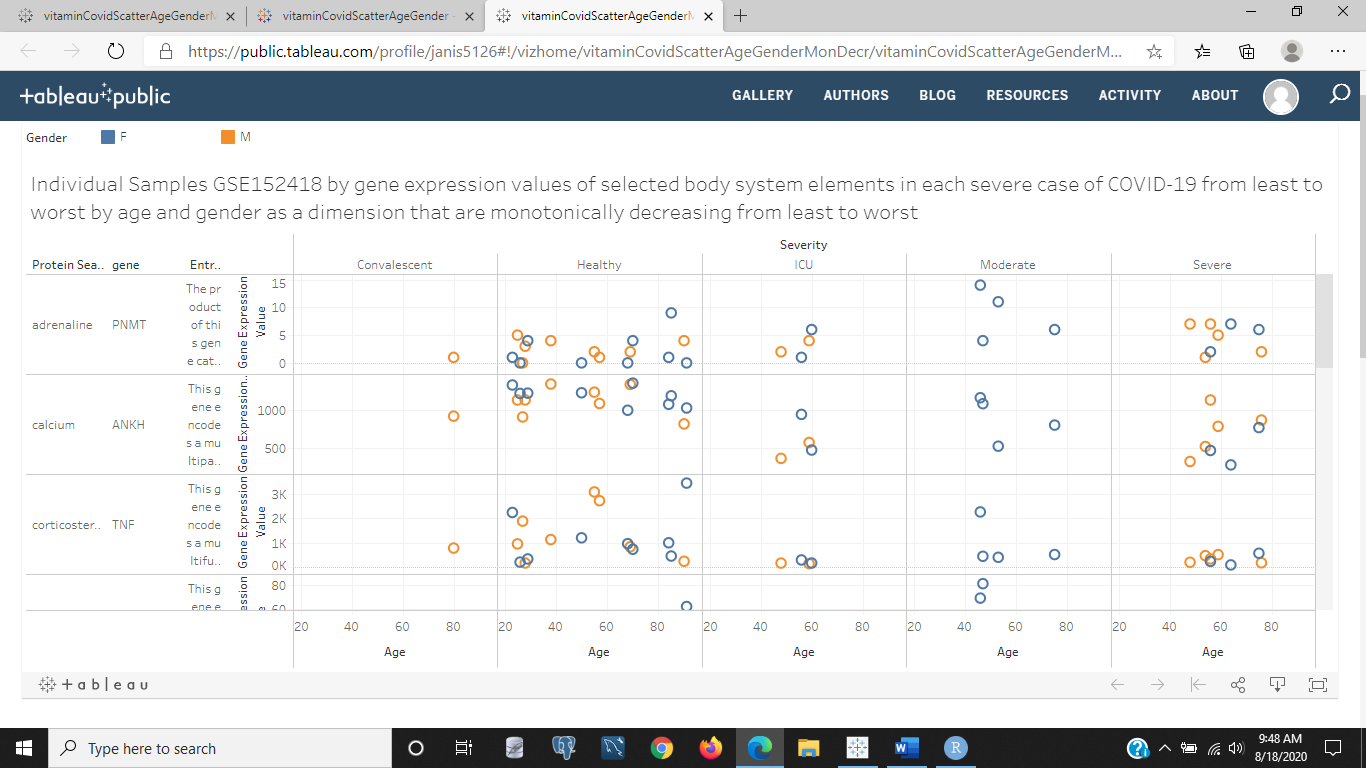


Figure 4:

<https://public.tableau.com/profile/janis5126#!/vizhome/vitMinSterMonIncrAllGenesBarchart/vitMinSterMonIncrGenesBarchart?publish=yes>

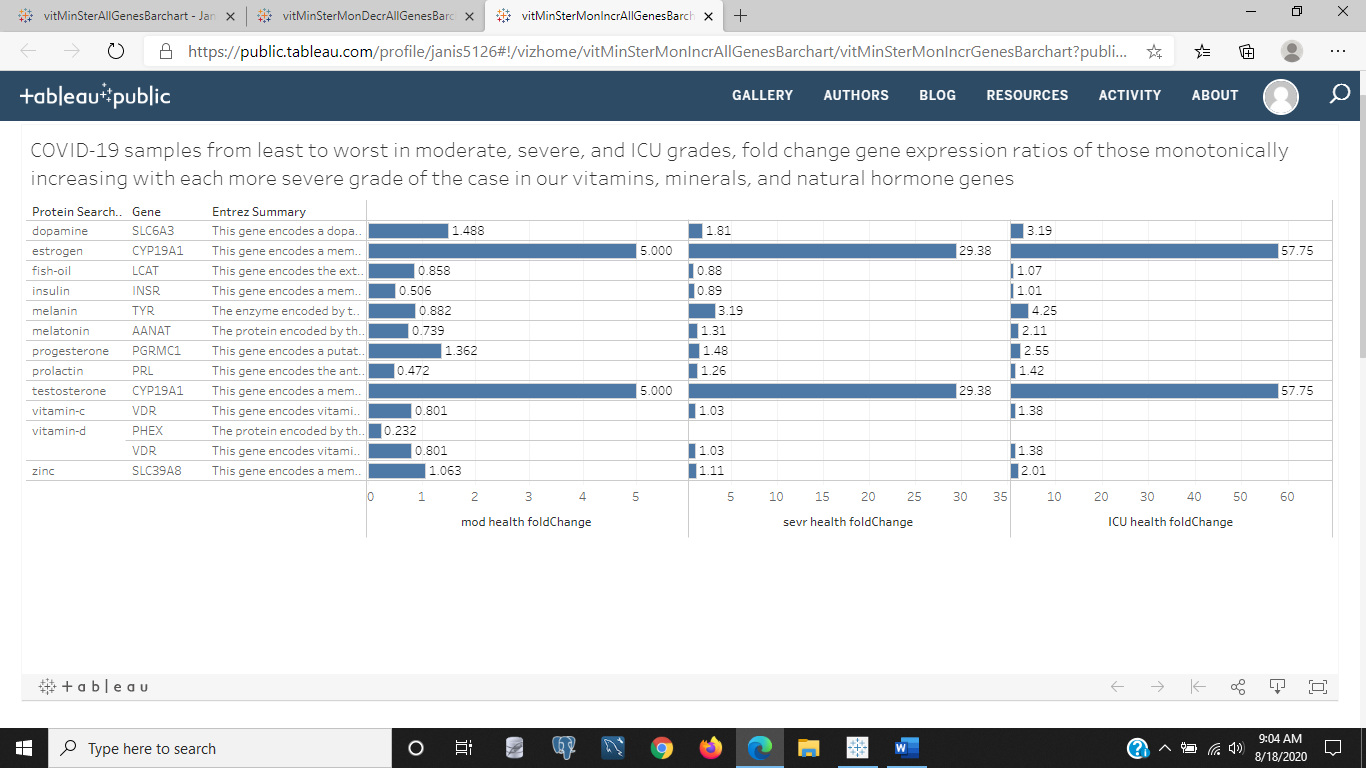


Figure 5:

<https://public.tableau.com/profile/janis5126#!/vizhome/vitaminCovidScatterAgeGenderMonIncr/vitaminCovidScatterAgeGenderMonIncr?publish=yes>

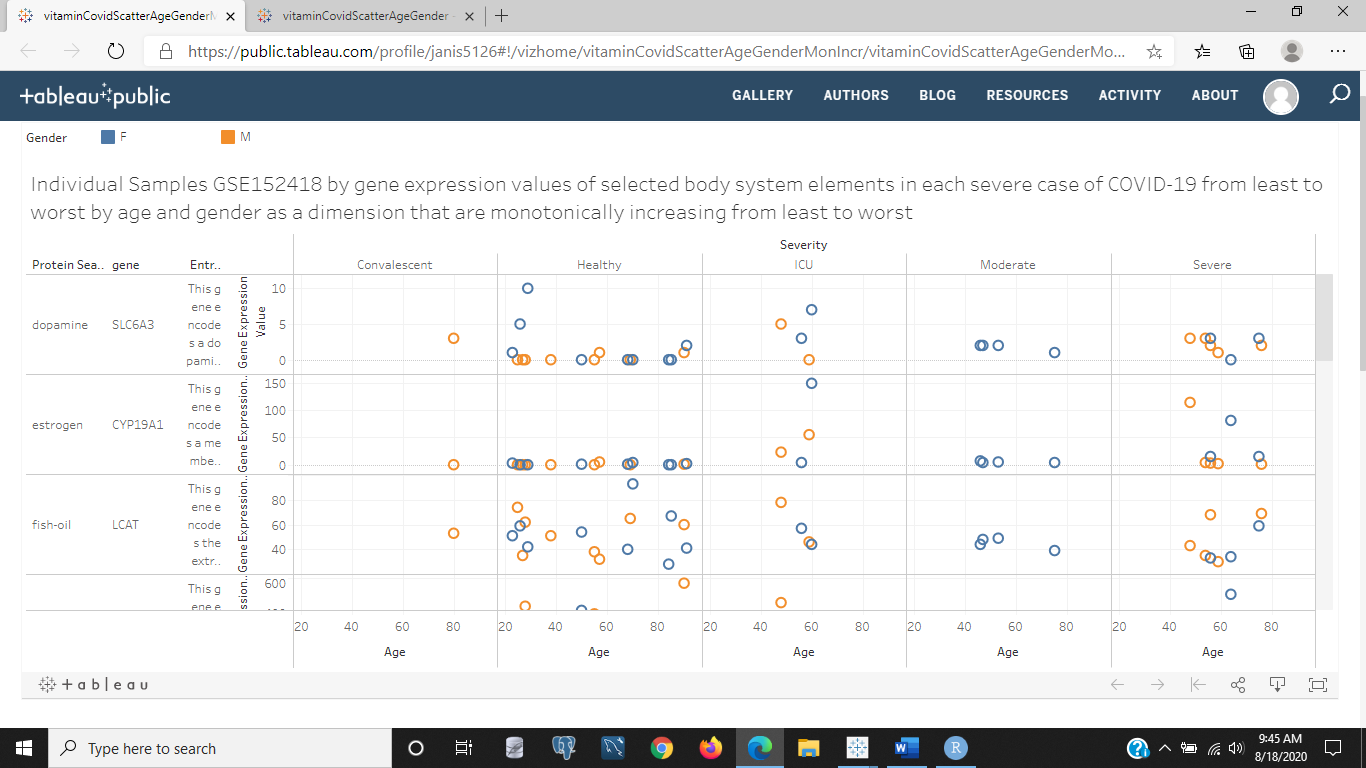


Figure 6: