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**Task 1**

Complete Data

A screenshot of a computer

Description automatically generated

Statistical Summary

A screenshot of a computer

Description automatically generated

Histogram and Box Plot of the BMI Data

A blue and white graph

Description automatically generated

A graph with a bar and a line

Description automatically generated with medium confidence

Histogram and Box Plot of the Age Data

A graph with a number of steps

Description automatically generated with medium confidence

A graph with a bar

Description automatically generated

Histogram and Box Plot of the General Health Data

A graph with blue bars

Description automatically generated

A blue rectangular object with black lines

Description automatically generated

Histogram of the Diabetes\_binary Data

A graph with numbers and lines

Description automatically generated

Correlation Analysis

A screen shot of a screen

Description automatically generated

Task 2

From the Statistical Summary shown above, the participants have an average age of 8 years old and has an average BMI of 28.38. Now, according to an online article of Food and Nutrition Technical Assistance, given that a child is around 8 years old, and their BMI is greater than or equal to 20.7, they are under the Obese class. However, despite of this, the histogram for General Health and Diabetes\_binary suggests that these majority of the children are in good health.

Moreover, the correlation analysis also suggests that there is a positive correlation between Diabetes\_binary and the following variables: BMI, GenHlth, and Age.

Task 3

Heat Map for Correlation Analysis

A graph of mathematical equations

Description automatically generated with medium confidence

Histogram for BMI Data

A blue and white graph

Description automatically generated

Histogram for Diabetes

A graph with blue bars

Description automatically generated

Task 4

A person and person figures with numbers and symbols

Description automatically generated

This figure isn’t that clear with what it is trying to say or portray. What does “Gender balance" mean? Also, there is no clear indication of what the numbers are or what they represent. Also, the design is a bit much I would say. This kind of design also ruined this graph below

A person and person with numbers and symbols

Description automatically generated

It just says mean bonus pay gap of 10.4% without having a clear understanding whether men do have the higher bonus pay or is it the women, because the figure isn’t clear about that as well.

So, if I were to redesign this, a simple bar graph would be a good one with pink indicating the bar for women and blue for men. For me, in terms of design and aesthetic, less is more. In addition, if I were to make a similar graph like this one, I would add few more texts in it to indicate what the numbers are representing and to be clear with what I am trying to compare.

Google Colab Link

Here is the Google Colab link for the python code I made: <https://colab.research.google.com/drive/1kAhS4slI0W7Ttyyj3VlzHTIKDoqY3_y8?usp=sharing>

References

Food and Nutrition Technical Assistance. (2013). *BMI and BMI-for-Age Look-Up tables for children and adolescents 5–18 years of age and BMI Look-Up tables for Non-Pregnant, Non-Lactating Adults ≥ 19 years of age*. https://www.fantaproject.org/sites/default/files/resources/FANTA-BMI-charts-Jan2013-ENG\_0.pdf