Project Report

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Introduction

The future existence of humankind is dependent on our ability to live sustainably. As human populations rise along with greenhouse gas emissions, deforestation rates, and generation of waste, we will continue to deplete natural resources, disrupt ecosystems, and increase global temperatures, leading to an unsustainable future. Because of this, it is critical to study environmental indicators to assess the current state and trajectory of the environment.

For my BIOS 611 project, I chose to analyze global environmental indicator data along with global economic and happiness indicator data. My goal was to assess recent environmental trends of countries around the world and to see how these trends might correspond with the state of the economy and measured levels of happiness within the countries.

Data sets used

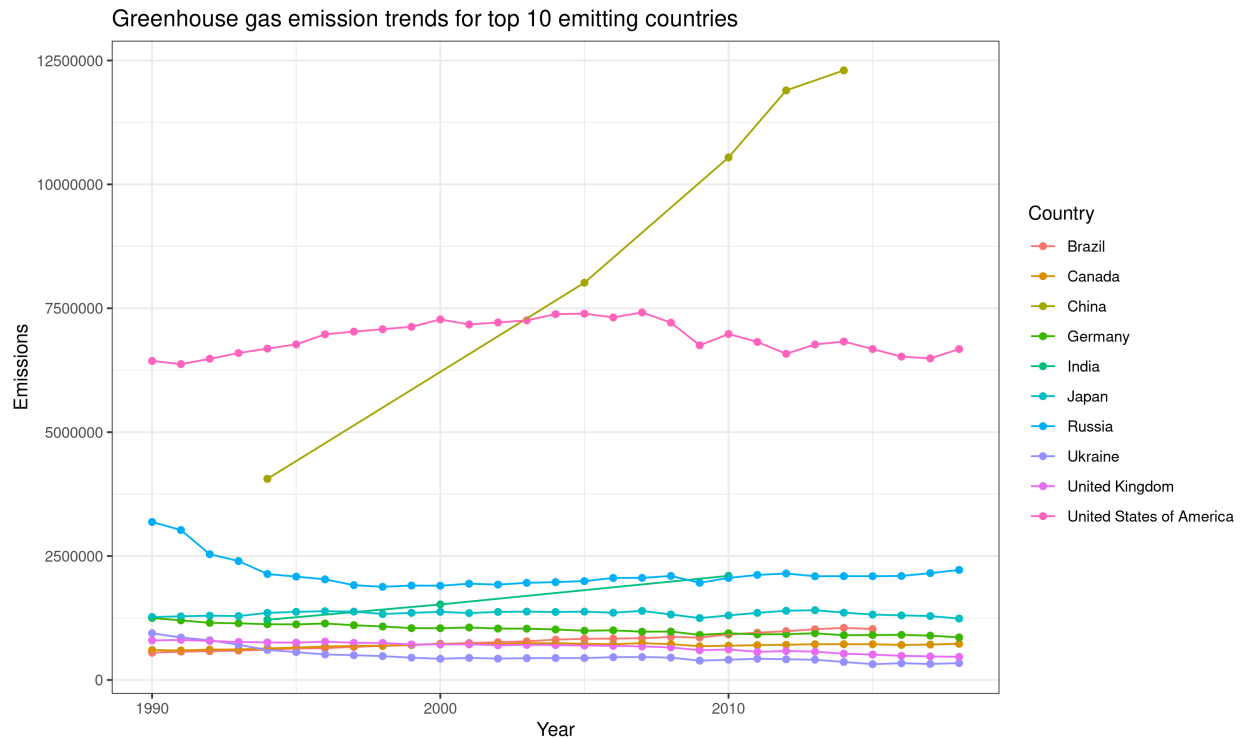## Exploration of indicator trends by country

Figure 1: Emissions over time

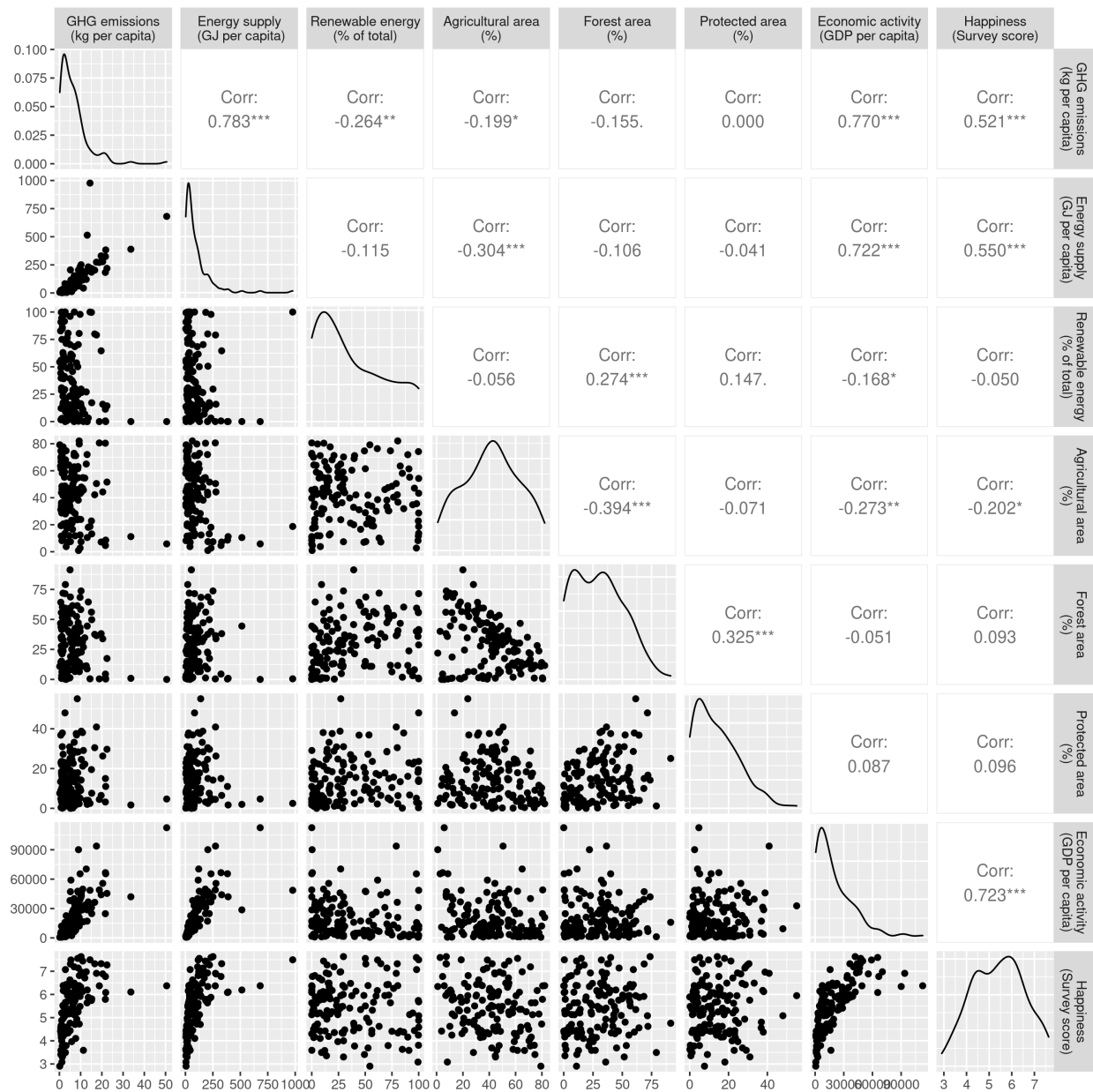# Exploration of trends between indicators

Figure 2: Paired indicators

Prediction of happiness level from environmental indicator data

Prediction of GDP level from environmental indicator data

Conclusions
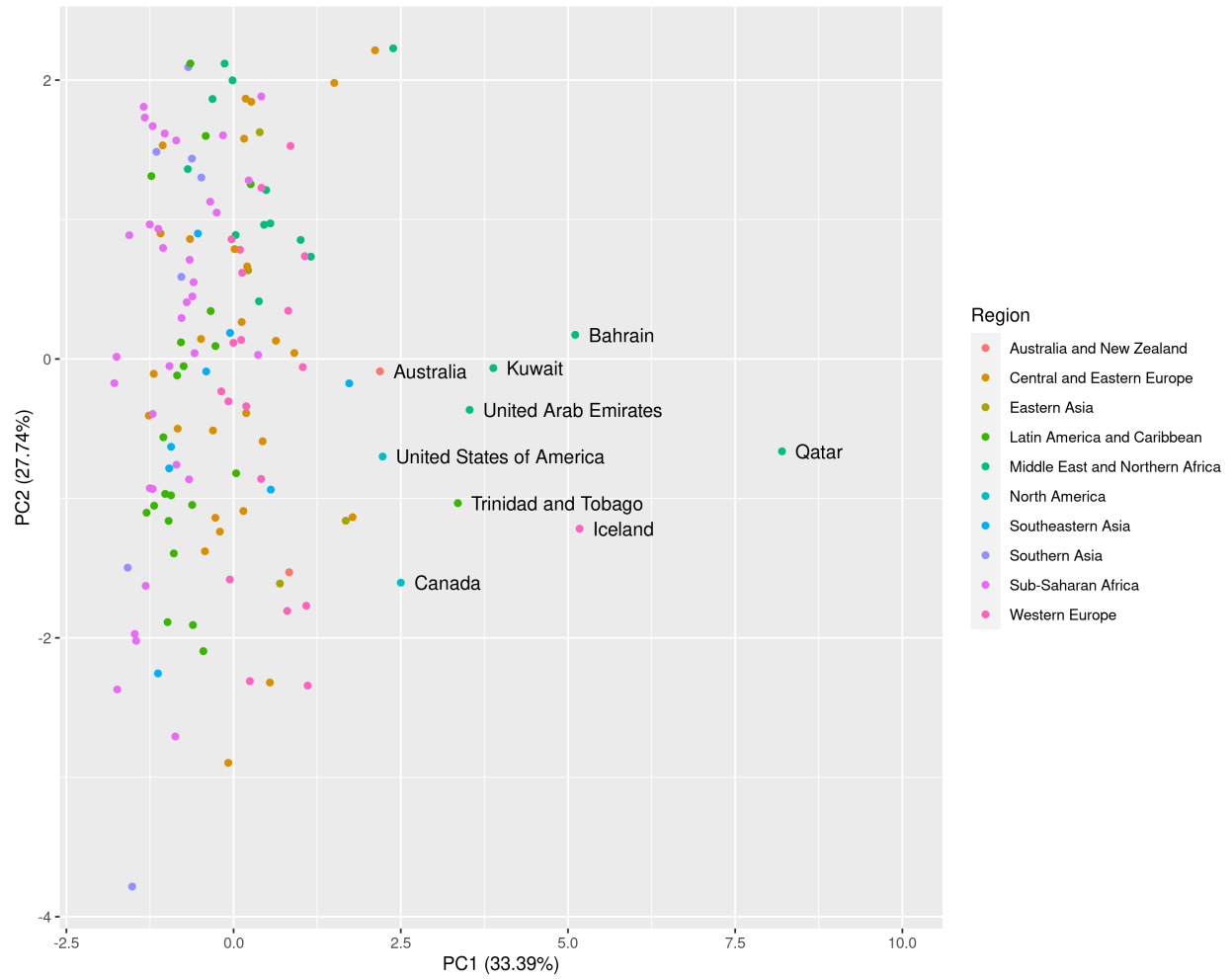
Further exploration
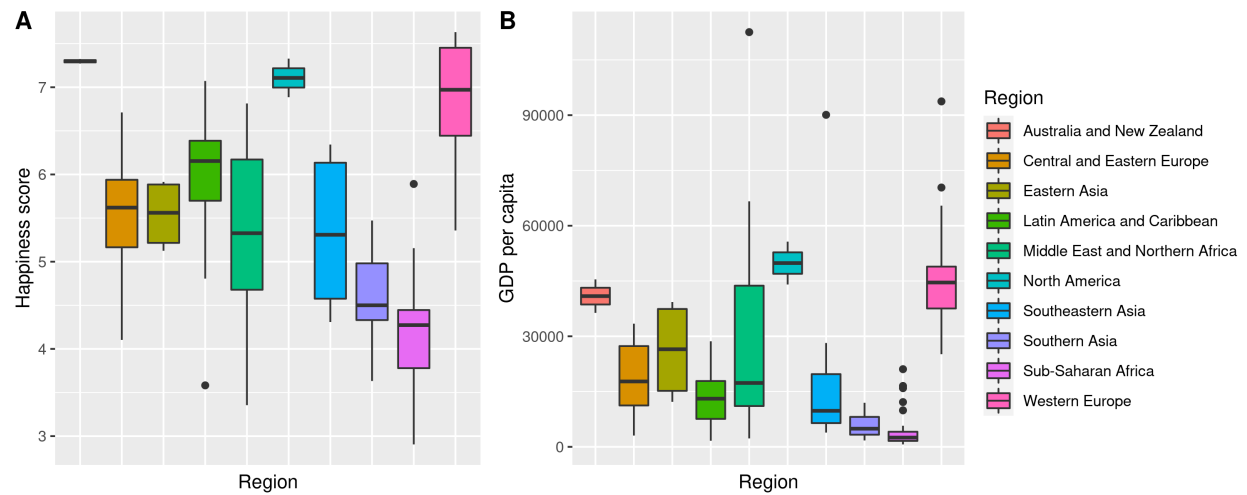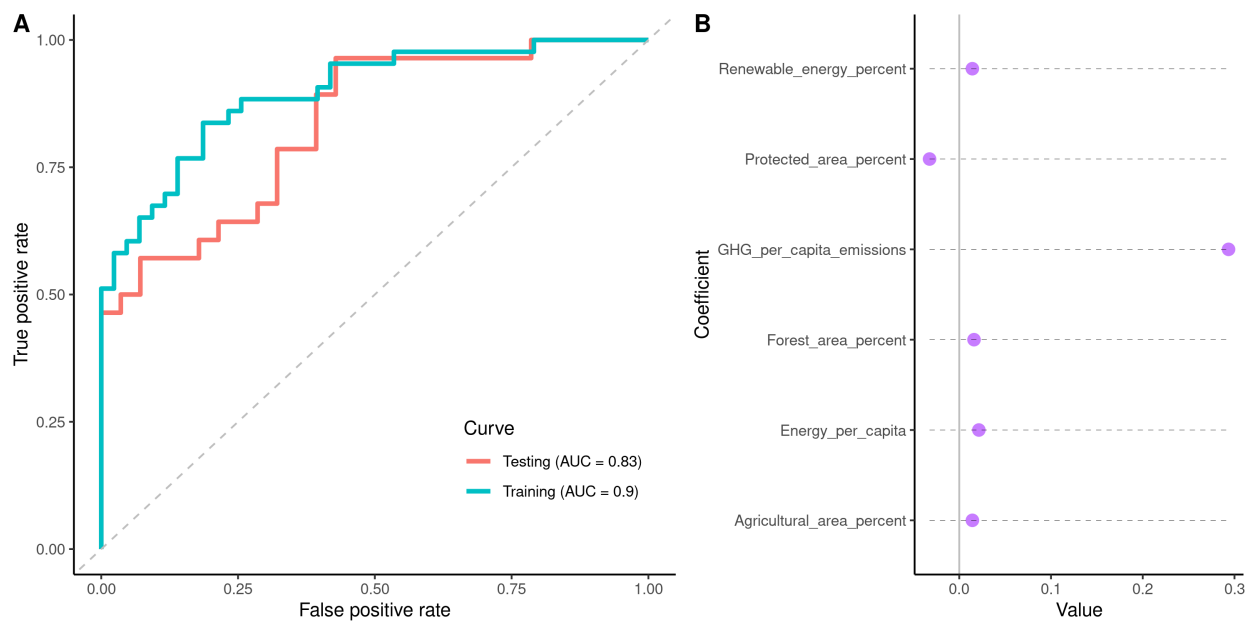
Figure 3: Environmental indicator PCA

Figure 4: Region boxplots

Figure 5: Happiness predictor

Figure 6: GDP predictor