

Project Proposal to Research Global Happiness

Capstone 1 - Experimental Design

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Data & Motivation

The *World Happiness Report (2019)* provides opportunities for each nation to assess its progress based on the well-being of its citizens; for example, economists, policy makers, psychologists, statisticians and others can work more effectively with their respective countries to evaluate and improve economic development, healthcare systems, public policies, and social morale by regularly using happiness indicators.

The *2019 Happiness Data* comes from Kaggle, [located here](#), and shows which countries ranked the highest in overall happiness. It includes 156 countries (rows) and 9 variables (columns), 6 of which are the *factors of happiness*. The values for each factor describe the extent to which that factor contributes in the evaluation of a country's happiness; values outline the factor's importance relative to each country, which provides insight to why each country may have a higher or lower rank than others.

Research Design

The goal of this project is to determine how five of the six factors contribute to a country's happiness by testing the following three hypotheses:

- *A country's economic production makes people happier than having a healthy life expectancy.*
- *A country's perceived corruption is related to the overall happiness of its citizens.*
- *Having social support makes people happier than having the freedom to make life choices.*

To test these hypotheses, experiments will be conducted on the *2019 Happiness Data*; the data exploration will contain no less than four *visualizations* and one *formal, statistical test* distributed across the following *investigative questions*:

1. *Does a country's economic production make people happier than having a healthy life expectancy?*
2. *Is a country's perceived corruption related to the overall happiness of its citizens?*
3. *Does having social support make people happier than having the freedom to make life choices?*
 - a. *Is the social support score, on average, higher than that of having the freedom to make life choices (i.e., is there a significant difference between the variables' population means)?*

Audience

The research results for these hypotheses will provide insight to which factors, on average, contribute more to a country's happiness; as such, the findings might be interesting to the following: economists, engineers, government agencies, policy makers, psychologists, statisticians and anyone who is inherently inquisitive.