PROJECT 1: PROPOSAL SUMMARY

**Team members:**

Dennis Smirnov

Alexander Singur

Ian Won

Carlos Jaramillo  
 Saumil

**Question:**

Which of these random factors: economic, social or environmental, have the highest correlation with the happiness index?

**Data sets:**

Existing happiness index: (<https://worldhappiness.report/ed/2019/)>

Economy stats:  
 GDP: <https://data.worldbank.org/indicator/ny.gdp.pcap.cd>

Unemployment rate: <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS>

Tax Revenue: <https://data.oecd.org/tax/tax-revenue.htm>

Ease of doing business: <https://www.doingbusiness.org/en/custom-query>

Non-economy stats:  
> Social:

* Education index ([http://hdr.undp.org/en/data#](http://hdr.undp.org/en/data))
* Alcohol consumption (<https://data.worldbank.org/indicator/SH.ALC.PCAP.LI?year_high_desc=true)>
* Migration data (<https://data.worldbank.org/indicator/SH.ALC.PCAP.LI?year_high_desc=true)>

> Environmental

* Length of day (<https://sunrise-sunset.org/api> / <https://developers.google.com/public-data/docs/canonical/countries_csv)>
* Bio capacity (<https://data.footprintnetwork.org/#/compareCountries?type=BCpc&cn=all&yr=2016)>
* Ecological footprint (<https://data.footprintnetwork.org/#/compareCountries?type=EFCpc&cn=all&yr=2016)>

> Technological

* Internet Access (<https://data.worldbank.org/indicator/IT.NET.USER.ZS>)
* Innovation index (<https://www.globalinnovationindex.org/analysis-indicator)>
* Energy use (<https://data.worldbank.org/indicator/EG.USE.PCAP.KG.OE?view=chart>)

The way we would be conducting this experiment is taking 3 countries from each of the categories: Developed, Developing, and least developed countries.

Definition:

* Developed: “A **developed country**, **industrialized country**, **more developed country**, or **more economically developed country** (**MEDC**), is a [sovereign state](https://en.wikipedia.org/wiki/Sovereign_state) that has a developed economy and advanced technological infrastructure relative to other less industrialized nations. Most commonly, the criteria for evaluating the degree of economic development are [gross domestic product](https://en.wikipedia.org/wiki/Gross_domestic_product) (GDP), [gross national product](https://en.wikipedia.org/wiki/Gross_national_product) (GNP), the [per capita income](https://en.wikipedia.org/wiki/Per_capita_income), level of industrialization, amount of widespread infrastructure and general standard of living.”
* Developing: “A **developing country** (or a **low and middle income country** (**LMIC**), **less developed country**, **less economically developed country** (**LEDC**), or **underdeveloped country**) is a country with a less developed [industrial base](https://en.wikipedia.org/wiki/Industry) and a low [Human Development Index](https://en.wikipedia.org/wiki/Human_Development_Index) (HDI) relative to other countries.[[2]](https://en.wikipedia.org/wiki/Developing_country#cite_note-2)However, this definition is not universally agreed upon. There is also no clear agreement on which countries fit this category.[[3]](https://en.wikipedia.org/wiki/Developing_country#cite_note-UN-3) A nation's [GDP per capita](https://en.wikipedia.org/wiki/GDP_per_capita) compared with other nations can also be a reference point.”

Source: <https://en.wikipedia.org/wiki/Developing_country>

* Least developing: “The **Least Developed Countries** (**LDCs**) is a list of [developing countries](https://en.wikipedia.org/wiki/Developing_country) that, according to the [United Nations](https://en.wikipedia.org/wiki/United_Nations), exhibit the lowest indicators of [socioeconomic](https://en.wikipedia.org/wiki/Socioeconomics) [development](https://en.wikipedia.org/wiki/International_development), with the lowest [Human Development Index](https://en.wikipedia.org/wiki/Human_Development_Index) ratings of [all countries in the world](https://en.wikipedia.org/wiki/List_of_sovereign_states).”

Source: <https://en.wikipedia.org/wiki/Least_Developed_Countries>

To organize this a little better, we will be taking 3 continents to understand how different regions of the world react with the observations we carry out with respect to happiness and the variables against it.

1st continent: Americas

* Canada (Developed)
* USA (Developed)
* Mexico (Developing)
* Haiti (Least Developed)

2nd continent: Asia

* Korea (Developed)
* China (Developing)
* Cambodia (Least developed)

3rd continent: Europe (Not to be mistaken with the European Union (EU))

* Germany (Developed)
* Russia (Developing)
* Greece (Developing)