Perceptions of wellbeing

Luciano Lattes

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Contents

Introduction

The following analysis is based on the **Perceptions of wellbeing** dataset included as supplementary indicators in the **Human Development Reports** of the *UN*. Click here for further information.

The main source of data for the **Perceptions of wellbeing** dataset is the **Gallup World Poll**, a global survey that tracks **the most important issues worldwide, such as food access, employment, leadership performance, and well-being**.

For additional information about the **Gallup World Poll**, you can follow the links below:

- How Does the Gallup World Poll Work?
- Country Data Set Details
- World Poll Methodology

About the data

Each observation of the **perceptions of wellbeing** dataset used in this analysis has, apart from a given country and its global rank in the Human Development Index, columns with a numeric value representing a percentage of answers for the following survey questions:

- **Satisfaction with education quality:** Percentage of respondents who answered "satisfied" to the Gallup World Poll question, "Are you satisfied or dissatisfied with the education system?"
- **Satisfaction with health care quality:** Percentage of respondents who answered "satisfied" to the Gallup World Poll question, "Are you satisfied or dissatisfied with the availability of quality health care?"
- **Satisfaction with standard of living:** Percentage of respondents answering "satisfied" to the Gallup World Poll question, "Are you satisfied or dissatisfied with your standard of living, all the things you can buy and do?"

- **Satisfaction with job:** Percentage of respondents answering "satisfied" to the Gallup World Poll question, "Are you satisfied or dissatisfied with your job?"
- **Perception of safety:** Percentage of respondents answering "yes" to the Gallup World Poll question, "Do you feel safe walking alone at night in the city or area where you live?"
- **Satisfaction with freedom of choice:** Percentage of respondents answering "satisfied" to the Gallup World Poll question, "In this country, are you satisfied or dissatisfied with your freedom to choose what you do with your life?"
- **Overall life satisfaction index:** Average response to the Gallup World Poll question: "Please imagine a ladder, with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possible life for you, and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?"
- **Trust in other people:** Percentage of respondents answering "can be trusted" to the Gallup World Poll question, "Generally speaking, would you say that most people can be trusted or that you have to be careful in dealing with people?"
- **Satisfaction with community:** Percentage of respondents answering "yes" to the Gallup World Poll question, "Are you satisfied or dissatisfied with the city or area where you live?"
- **Satisfaction with efforts to deal with the poor:** Percentage of respondents who answered "satisfied" to Gallup World Poll question, "In this country, are you satisfied or dissatisfied with efforts to deal with the poor?"
- **Satisfaction with actions to preserve the environment:** Percentage of respondents answering "satisfied" to Gallup World Poll question: "In this country, are you satisfied or dissatisfied with the efforts to preserve the environment?"
- **Trust in national government:** Percentage of respondents answering "yes" to the Gallup World Poll question, "In this country, do you have confidence in the national government?"
- **Satisfaction with local labour market:** Percentage of respondents answering "good" to Gallup World Poll question, "Thinking about the job situation in the city or area where you live today, would you say that it is now a good time or a bad time to find a job?"

Source code

Obtain and cleanup the data

The dataset is retrieved from the UNDP public API and pre-processed in order to get it ready for the analysis.

```
library(httr)
library(jsonlite)
library(dplyr)
library(ggplot2)
library(GGally)

# Get data from UNDP API.
rawApiData <- GET(url = "https://data.undp.org/resource/p79w-icq5.json")
# Transform content to JSON and parse it back as data frame.
apiData <- jsonlite::fromJSON(toJSON(content(rawApiData), auto_unbox = TRUE))
dplyrApiData <- tbl_df(apiData)
# Remove unnecessary columns from the API data.
dplyrApiData <- select(dplyrApiData, country, hdi_rank, starts_with("perceptions"))
# Filter all the rows without Human Development Index rank (these rows do not
# represent actual countries).
```

```
filtered <- dplyrApiData %>% filter(hdi_rank != "NULL")
# Transform all dot dot values into NA.
filtered[filtered == ".."] <- NA
# Transform HDI rank and perception indices into numeric columns.
final_dataset <- mutate_each(filtered, funs(as.numeric), hdi_rank,
    starts_with("perceptions"))
# According to original data, the following is the HDI index classification by rank:
#   [1 50):    Very High Human Development Index
#   [50 103):  High HDI
#   [103 145): Medium HDI
#   145+:      Low HDI
hdi_ranges <- cut(x = range(final_dataset$hdi_rank)[1]:range(final_dataset$hdi_rank)[2],
    breaks = c(0, 49, 102, 144, range(final_dataset$hdi_rank)[2]),
    labels = c("Very high HDI", "High HDI", "Medium HDI", "Low HDI"))
# Remove unused variables from environment.
rm("rawApiData", "apiData", "dplyrApiData", "filtered")
```

Rename all column names for the sake of code simplicity.

```
final_dataset <- rename(final_dataset, local_labour_market = perceptions_about_community_local_labour_ma
final_dataset <- rename(final_dataset, community = perceptions_about_community_community_answering_yes_1
final_dataset <- rename(final_dataset, preserve_the_environment = perceptions_about_government_actions_t
final_dataset <- rename(final_dataset, job_satisfied = perceptions_of_individual_well_being_job_satisfi
final_dataset <- rename(final_dataset, trust_in_national_government = perceptions_about_government_trust
final_dataset <- rename(final_dataset, education_quality = perceptions_of_individual_well_being_educati
final_dataset <- rename(final_dataset, standard_of_living = perceptions_of_individual_well_being_standa
final_dataset <- rename(final_dataset, freedom_of_choice = perceptions_of_individual_well_being_freedom_
final_dataset <- rename(final_dataset, safety = perceptions_of_individual_well_being_safety_answering_ye
final_dataset <- rename(final_dataset, overall_life_satisfaction = perceptions_of_individual_well_being_
final_dataset <- rename(final_dataset, efforts_to_deal_with_the_poor = perceptions_about_government_effo
final_dataset <- rename(final_dataset, health_care_quality = perceptions_of_individual_well_being_health
final_dataset <- rename(final_dataset, trust_in_other_people = perceptions_about_community_trust_in_othe
```

Generate datasets for plotting

A few secondary datasets are generated from the clean dataset obtained above. The idea is to evaluate which countries have the highest perception rating in each of the categories of the survey.

```
# Explore overall life satisfaction index: Select top 12
overall <- final_dataset %>%
  arrange(desc(overall_life_satisfaction)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, overall_life_satisfaction) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])
# Add a ordered column for pretty plots.
overall$countryOrdered <- reorder(overall$country,
    desc(overall$overall_life_satisfaction))
# Calculate the overall mean of life satisfaction.
overallSatisMean <- mean(final_dataset$overall_life_satisfaction, na.rm = TRUE)

# Explore perception about government: Select top 12
government <- final_dataset %>%
```

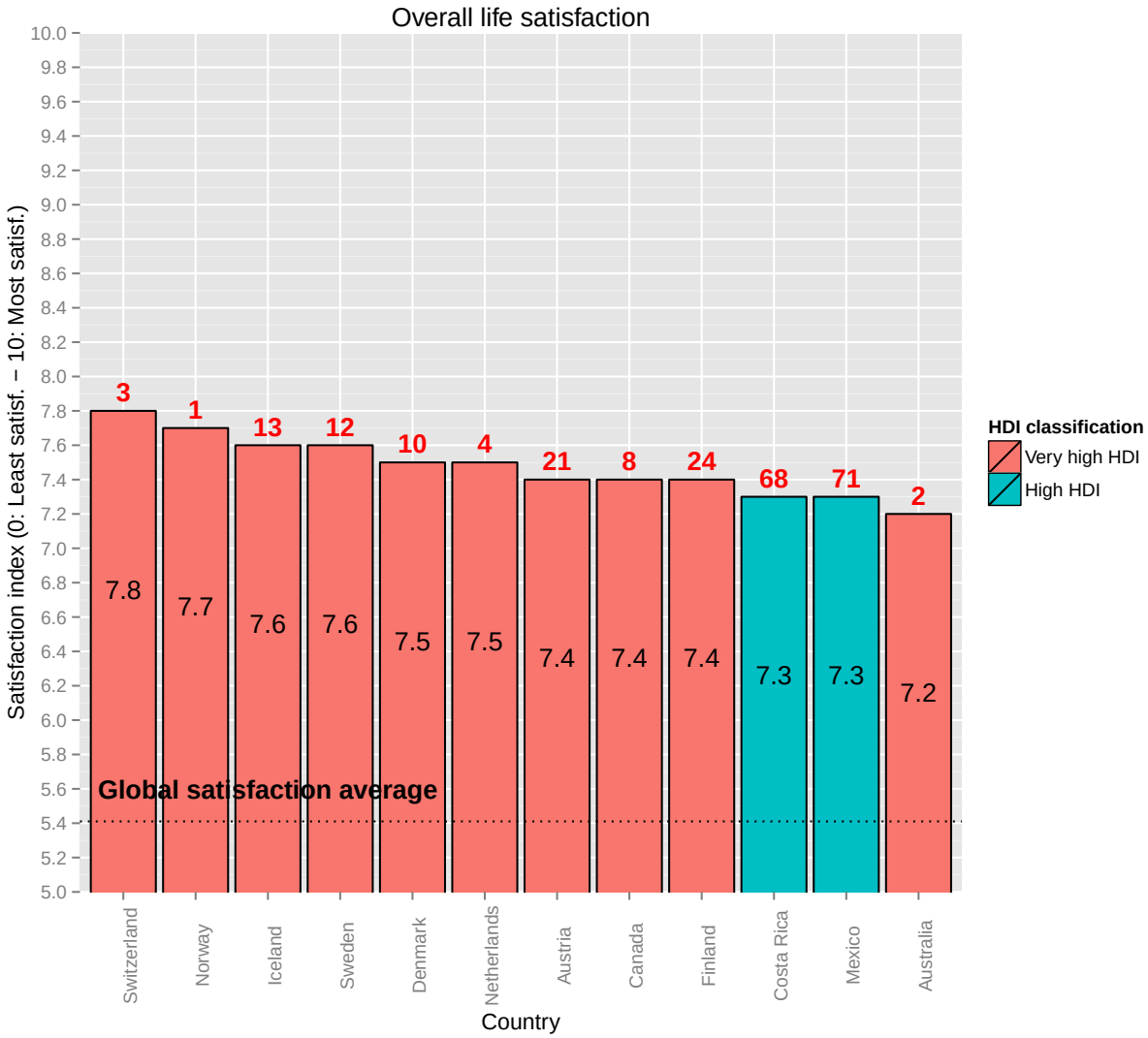
```
  arrange(desc(trust_in_national_government)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank,trust_in_national_government) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

government$countryOrdered <- reorder(government$country,
    desc(government$trust_in_national_government))

governmentSatisMean <- mean(final_dataset$trust_in_national_government, na.rm = TRUE)

# Explore perception about education quality: Select top 12
education <- final_dataset %>%
  arrange(desc(education_quality)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank,education_quality) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

education$countryOrdered <- reorder(education$country, desc(education$education_quality))

educationSatisMean <- mean(final_dataset$education_quality, na.rm = TRUE)

# Explore job satisfaction: Select top 12
jobs <- final_dataset %>%
  arrange(desc(job_satisfied)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, job_satisfied) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

jobs$countryOrdered <- reorder(jobs$country, desc(jobs$job_satisfied))

jobsSatisMean <- mean(final_dataset$job_satisfied, na.rm = TRUE)

# Explore local labour market satisfaction: Select top 12
market <- final_dataset %>%
  arrange(desc(local_labour_market)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, local_labour_market) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

market$countryOrdered <- reorder(market$country, desc(market$local_labour_market))

marketSatisMean <- mean(final_dataset$local_labour_market, na.rm = TRUE)

# Explore perception about community: Select top 12
community <- final_dataset %>%
  arrange(desc(community)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, community) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

community$countryOrdered <- reorder(community$country, desc(community$community))

communitySatisMean <- mean(final_dataset$community, na.rm = TRUE)
```

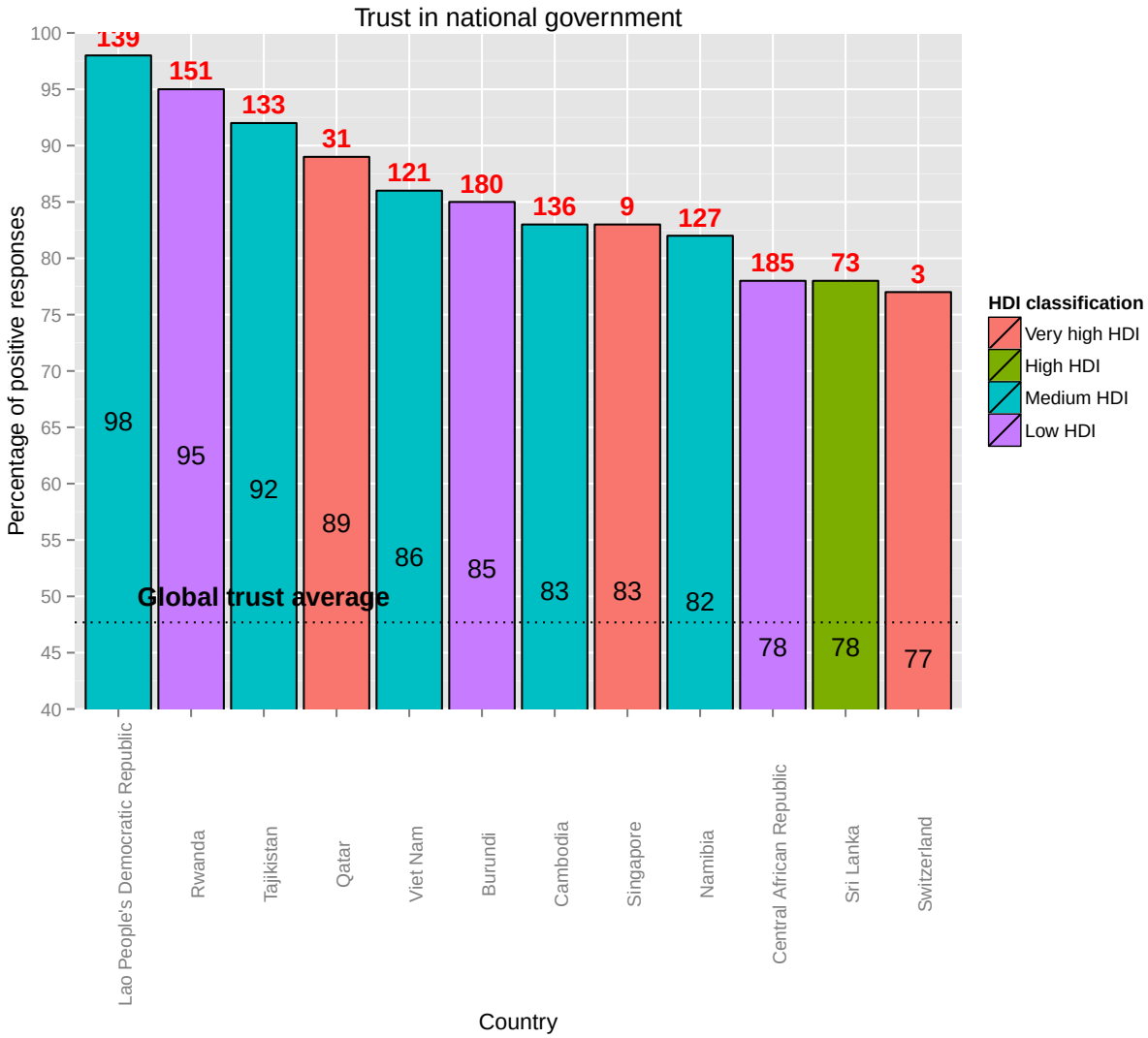
```r
# Explore perception about freedom of choice: Select top 12
freedom <- final_dataset %>%
  arrange(desc(freedom_of_choice)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, freedom_of_choice) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

freedom$countryOrdered <- reorder(freedom$country, desc(freedom$freedom_of_choice))

freedomSatisMean <- mean(final_dataset$freedom_of_choice, na.rm = TRUE)

# Explore perception about safety: Select top 12
safety <- final_dataset %>%
  arrange(desc(safety)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, safety) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

safety$countryOrdered <- reorder(safety$country, desc(safety$safety))

safetySatisMean <- mean(final_dataset$safety, na.rm = TRUE)

# Explore perception about standard of living: Select top 12
standard <- final_dataset %>%
  arrange(desc(standard_of_living)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, standard_of_living) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

standard$countryOrdered <- reorder(standard$country, desc(standard$standard_of_living))

standardSatisMean <- mean(final_dataset$standard_of_living, na.rm = TRUE)

# Explore perception about government dealing with the poor: Select top 12
dealWithPoor <- final_dataset %>%
  arrange(desc(efforts_to_deal_with_the_poor)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, efforts_to_deal_with_the_poor) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

dealWithPoor$countryOrdered <- reorder(dealWithPoor$country,
    desc(dealWithPoor$efforts_to_deal_with_the_poor))

dealWithPoorSatisMean <- mean(final_dataset$efforts_to_deal_with_the_poor, na.rm = TRUE)

# Explore perception about government preserving environment: Select top 12
envPreservation <- final_dataset %>%
  arrange(desc(preserve_the_environment)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, preserve_the_environment) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

envPreservation$countryOrdered <- reorder(envPreservation$country,
```

```
    desc(envPreservation$preserve_the_environment))

envPreservationSatisMean <- mean(final_dataset$preserve_the_environment, na.rm = TRUE)

# Explore perception about health care quality: Select top 12
healthCare <- final_dataset %>%
  arrange(desc(health_care_quality)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, health_care_quality) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

healthCare$countryOrdered <- reorder(healthCare$country,
    desc(healthCare$health_care_quality))

healthCareSatisMean <- mean(final_dataset$health_care_quality, na.rm = TRUE)

# Explore perception about community trusting others: Select top 12
trustOthers <- final_dataset %>%
  arrange(desc(trust_in_other_people)) %>%
  filter(row_number() <= 12) %>%
  select(country, hdi_rank, trust_in_other_people) %>%
  mutate(hdi_classification = hdi_ranges[hdi_rank])

trustOthers$countryOrdered <- reorder(trustOthers$country,
    desc(trustOthers$trust_in_other_people))

trustOthersSatisMean <- mean(final_dataset$trust_in_other_people, na.rm = TRUE)
```

Plots

The following plots rank the twelve countries with the highest scores in each survey question. The red number over the bar represents the HDI ranking of the country.


Overall life satisfaction
Satisfaction index (0: Least satisf. – 10: Most satisf.)
10.0
9.8
9.6
9.4
9.2
9.0
8.8
8.6
8.4
8.2
8.0
7.8
7.6
7.4
7.2
7.0
6.8
6.6
6.4
6.2
6.0
5.8
5.6
5.4
5.2
5.0
3
1
13
12
10
4
21
8
24
68
71
2
7.8
7.7
7.6
7.6
7.5
7.5
7.4
7.4
7.4
7.3
7.3
7.2
Global satisfaction average
Switzerland
Norway
Iceland
Sweden
Denmark
Netherlands
Austria
Canada
Finland
Costa Rica
Mexico
Australia
Country
HDI classification
Very high HDI
High HDI



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.