

# Changes in Life Expectancy Report

Generated on February 12, 2024 20:45 PST

## I. Introduction

[Gapminder](#) is an independent educational non-profit organization based out of Stockholm, Sweden that focuses on informing global audiences in areas related to long-term global development and progress. They provide learning tools, fact-based resources, and statistics that aim to elevate understanding of the global world and fight misconceptions about it.

## II. An Overview of the Data

For this report in particular, we will focus entirely on looking at values of life expectancy at birth across different countries from one year to another. We will use the `gapminder` package in R, which has a subset of the entire **Gapminder** data set.

The entire `gapminder` data set has 1704 rows with the following four columns (out of six in total) that we will focus on primarily for this report:

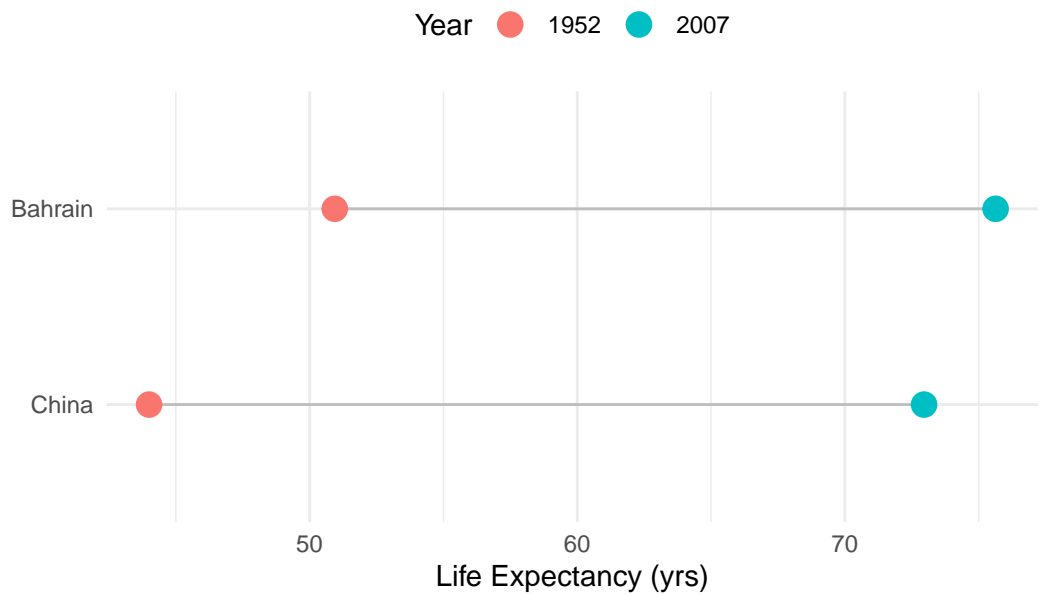
- **country**: a factor with 142 nominal levels with each level name being the name of a country
- **continent**: a factor with five nominal levels (i.e., Africa, Americas, Asia, Euorpe, Oceania)
- **lifeExp**: the life expectancy at birth in years
- **year**: the year in which data was recorded. Note that this column ranges from 1952 to 2007 in five-year increments (i.e., 1952, 1957, 1962, etc)

### III. Data Results

#### a. Dumbbell Plot

For the year(s) **1952** and **2007**, we have selected the *two* countries **Bahrain** and **China**.

Given the selections made, we have the following dumbbell plot:



Source: gapminder

## b. Summary Statistics

Here are summary statistics across the life expectancies of the *two* countries **Bahrain** and **China** for the year(s) **1952** and **2007**:

Metric	1952	2007
Minimum	44.00	72.96
1st Quantile	45.73	73.63
Median	47.47	74.30
Mean	47.47	74.30
3rd Quantile	49.20	74.97
Maximum	50.94	75.64
Standard Deviation	4.91	1.89

For the year **1952**, the **maximum** life expectancy came from the country **Bahrain** with the value of **50.939 years**.

The **minmium** life expectancy for that year came from the country **China** with the value of **44 years**.

For the year **2007**, the **maximum** life expectancy came from the country **Bahrain** with the value of **75.635 years**.

The **minimum** life expectancy for that year came from the country **China** with the value of **72.961 years**.

### c. Widened Data Subset

For the year(s) **1952** and **2007**, we have the full data subset consisting of a pair of life expectancy values (in years) for each of the *two* countries below:

Continent	Country	Life Expectancy in 1952 (yrs)	Life Expectancy in 2007 (yrs)
Asia	Bahrain	50.94	75.64
Asia	China	44.00	72.96

## Data Source

The `gapminder` package in R contains a subset of the Gapminder data set available at <https://www.gapminder.org/data/>. This data subset has 142 countries with columns for a country's life expectancy, Gross Domestic Product (GDP) per capita, and population in five-year increments from 1952 to 2007.