

The background of the slide is a dense field of 3D-rendered numbers in various shades of blue and white. The numbers are of different sizes and are scattered across the entire frame, creating a sense of depth and complexity. Some numbers are prominent in the foreground, while others recede into the background.

Life Expectancy vs. HALE: Global and Gender Inequalities in Health

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Key Questions of the Analysis:

- ◆ What do the life expectancy at birth and HALE (Health Adjusted Life Expectancy) figures per country look like?
- ◆ Which countries have the highest and lowest HALE?
- ◆ How do life expectancy and HALE compare between men and women globally?
- ◆ Is there a correlation between high LE and high HALE across countries?

LE and HALE Dataset Overview & Methodology

❑ There are four csv files:

- ✓ HALElifeExpectancyAtBirth.csv
- ✓ HALEWHOregionLifeExpectancyAtBirth.csv
- ✓ lifeExpectancyAtBirth.csv
- ✓ ofHaleInLifeExpectancy.csv
- ✓ WHOregionLifeExpectancyAtBirth.csv

❑ I created a database life_expectancy_database with MySQL workbench, imported these files as tables, and renamed as follows:

- HALElifeExpectancyAtBirth → hale_life_expectancy_simple

Fields:-

Locations: countries

Period: Years

Indicator: HALE

Dim1: gender

First Tooltip: Numerical value of HALE

Records: 2196

- lifeExpectancyAtBirth → hale_life_expectancy_simple

Fields:-

Locations: countries

Period: Years

Indicator: LE

Dim1: gender

First Tooltip: Numerical value of LE

Records: 2196

- WHOregionLifeExpectancyAtBirth → who_region_life_expectancy_simple

Fields:-

Locations: continents

Period: Years

Indicator: LE

Dim1: gender

First Tooltip: Numerical value of LE

Records: 72

- ofHaleInLifeExpectancy → life_expectancy_detailed

Fields:-

Location: continents

Period: Years

Dim1: gender

Hale Expectancy: numerical value HALE

Life expectancy: numerical value of LE

MyUnknownColumn: numerical value

% OF HALE in life expectancy: numerical value

Records: 72

- HALEWHOregionLifeExpectancyAtBirth → hale_life_expectancy_detailed

Fields:-

Location: continents

Period: Years

Dim1: gender

Hale Expectancy: numerical value HALE

Life expectancy: numerical value of LE

MyUnknownColumn: numerical value

% OF HALE in life expectancy: numerical value

Records: 72

LE and HALE Dataset Overview & Methodology

After examining the tables, I decided to take the following tables:

- ✓ hale_life_expectancy_simple
- ✓ life_expectancy_simple
- ✓ who_region_life_expectancy_simple
- ✓ life_expectancy_detailed
- ✓ hale_life_expectancy_detailed (duplicate with life_expectancy_detailed, but difference in names. I chose one of them.)

Joining the lookup tables and the fact table will help in retrieving the right data from the tables.

❑ Created lookup tables:

- ✓ locations
fields: id, name
- ✓ periods
fields: id, year
- ✓ indicators
fields: id, name
- ✓ dimensions
fields: id, name

❑ Populated the lookup tables using the four tables above

❑ Created fact tables, life_expectancy_simple_fact and life_expectancy_detailed_fact, with the following fields and populated.

- ✓ life_expectancy_simple_fact: id, location_id, period_id, indicator_id, dimension_id, value.
location_id, period_id, indicator_id, dimension_id are all foreign keys.
- ✓ Life_expectancy_detailed_fact: id, location_id, period_id, indicator_id, dimension_id, hale_expectancy, life_expectancy, percent_hale.
location_id, period_id, indicator_id, dimension_id are all foreign keys.

Summary of key findings

❑ Average HALE Expectancy per country

```
# country, avg_hale_expectancy
```

```
'Japan', '73.03'  
'Singapore', '72.14'  
'Iceland', '71.28'  
'Switzerland', '71.2'  
'Israel', '71.19'  
'Sweden', '71.08'  
'France', '71.04'  
'Cyprus', '70.98'  
'Spain', '70.92'  
'Italy', '70.88'  
'Republic of Korea', '70.78'  
'Canada', '70.65'  
'Netherlands', '70.53'  
'Luxembourg', '70.45'  
'Malta', '70.4'  
'Norway', '70.28'  
'Australia', '70.06'  
'Greece', '69.99'  
'Germany', '69.83'  
'Austria', '69.82'
```

This is a sample of the results, showing the countries with the highest hale to be Japan (73.03), followed by Singapore (72.14), Iceland (71.28) and Switzerland (71.2) in the fourth place. Conversely, the countries with the least hale are:

```
# country, avg_hale_expectancy
```

```
'Lesotho', '42.43'  
'Central African Republic', '42.95'  
'Eswatini', '45.1'  
'Somalia', '47.01'
```

```
'Haiti', '47.15'  
'Mozambique', '47.25'  
'Zimbabwe', '47.6'  
'Sierra Leone', '48.15'  
'Zambia', '48.88'
```

The least country is Lesotho (42.43), followed by Central African Republic (42.95), Eswatini (45.1), Somalia (47.01) and forth. This shows that most of the countries with least hale are from Africa.

❑ Average Life Expectancy per country for Male

```
# country, avg_life_expectancy_male
```

```
'Japan', '79.83'  
'Switzerland', '79.83'  
'Iceland', '79.81'  
'Australia', '79.66'  
'Sweden', '79.37'  
'Singapore', '79.33'  
'Israel', '79.18'  
'Italy', '79.17'  
'Cyprus', '79.12'  
'Canada', '79.02'  
'Norway', '79.01'  
'New Zealand', '78.8'
```

In LE per country for men, Japan and Switzerland are leading with 79.83, followed by Iceland (79.81), Australia (79.66), Sweden (79.37) and Singapore (79.33) in the fifth position.

Summary of key findings

❑ Average Life Expectancy per country for Female

```
# country, avg_life_expectancy_female
'Japan', '85.87'
'Spain', '84.42'
'France', '84.17'
'Switzerland', '84.03'
'Italy', '83.88'
'Australia', '83.81'
'Singapore', '83.76'
'Republic of Korea', '83.69'
'Cyprus', '83.33'
'Luxembourg', '83.17'
'Canada', '83.11'
'Iceland', '83.1'
'Sweden', '83.1'
'Israel', '83.04'
'Finland', '82.96'
'Norway', '82.96'
'Austria', '82.76'
'Germany', '82.73'
'Portugal', '82.72'
'Greece', '82.53'
```

On the other hand, the above shows the average life expectancy per country for women. Japan is leading with 85.87, followed by Spain (84.42), France (84.17), Switzerland (84.03), and Italy (83.88) in the fifth place.

Comparing men's and women's life expectancy values shows that women have higher life expectancy compared to men. I am not looking at the reasons here. But the data shows that women live longer than men.

I included a query to find the LE per country. This is the first six countries.

```
# country, avg_life_expectancy
'Japan', '82.88'
'Switzerland', '81.95'
'Australia', '81.73'
'Spain', '81.57'
'Italy', '81.56'
'Singapore', '81.55'
```

This shows that the LE figures are higher than that of HALE. I was expecting the reverse to be the case, that is, for the HALE to be higher.

Conclusions



LE vs. HALE

LE value per country is higher than HALE value per country.



Countries with highest and least HALE

Japan has the highest (73.03) and Lesotho has the least (42.43).



LE among men and women

Women have higher LE than men per countries. For example, Japan and Switzerland (79.83) have the highest LE for men and (85.87 and 84.03, respectively) for women.