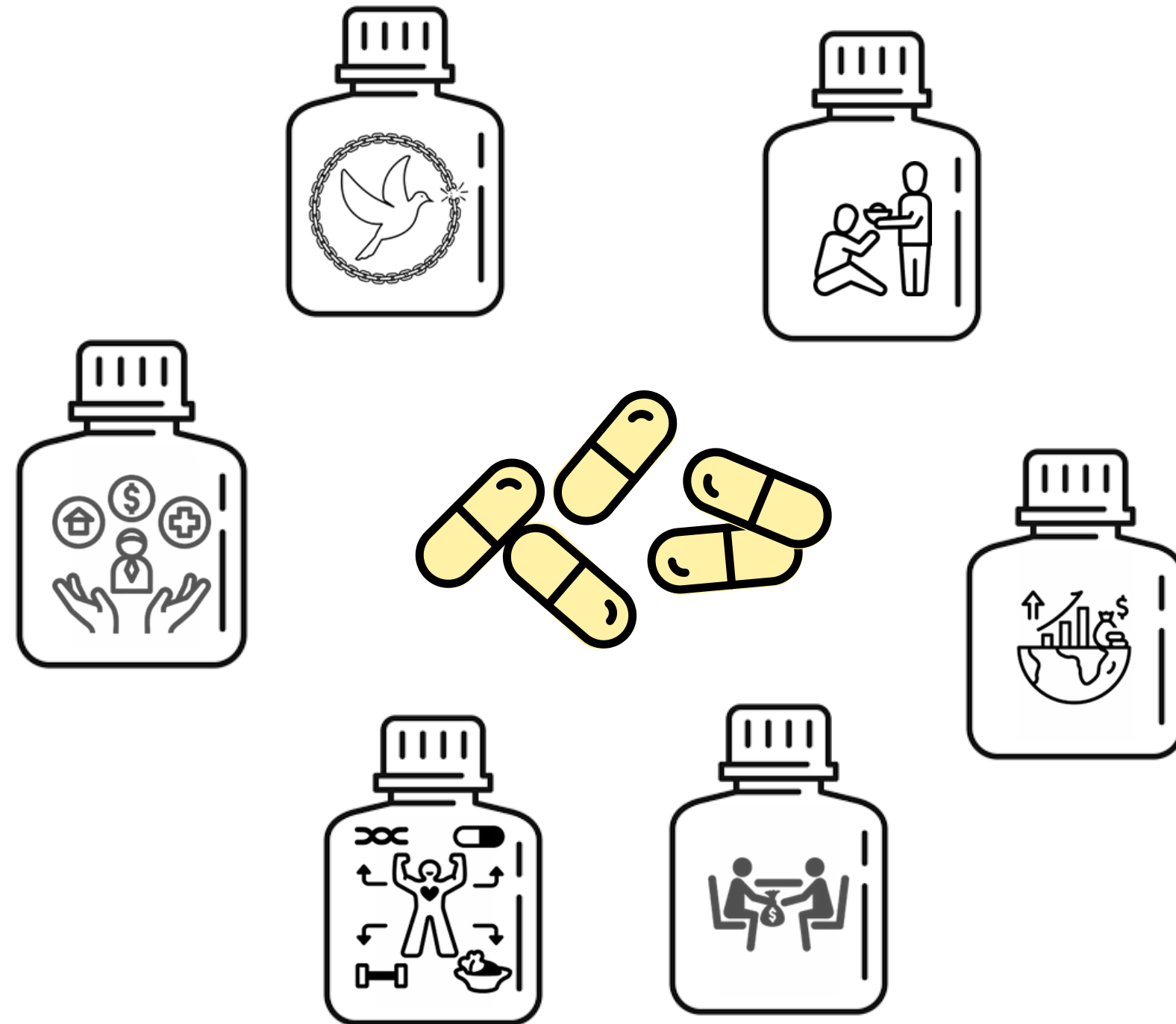# HAPPINESS BY THE NUMBERS:
TINY PILLS OF JOY

BIMBI DEL PIER
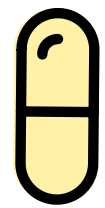
Michele Filopanti 882142

Sasha Risoluti 870667

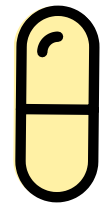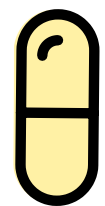Elisa Princic 886476

Andrea Torre 886051

THE NARRATIVE

The goal of this analysis is to explore which countries report the **highest levels** of **happiness** and whether these trends have remained consistent over the years.
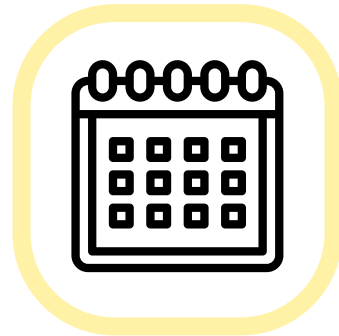
We aim to investigate how different cultures and societies **perceive** and define **happiness**: is it linked to wealth? Or is it rooted in family and community? How do diverse **life principles** shape the concept of happiness?
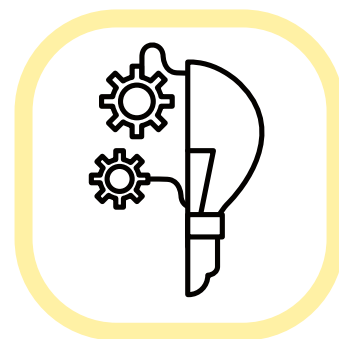
To deepen the analysis, we also want to focus on the **Covid-19** effect, and the correlation with industrialization and human development.
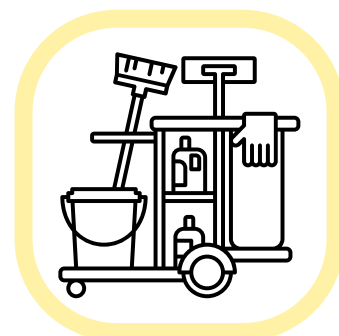
DATA CLEANING AND PROCESSING

We merged 11 datasets, from 2015 to 2023, we singularly downloaded from Kaggle. Next we added the 2024 dataset, which we found directly in the official WHR repository. Before integrating all of the 12 datasets, we added the column "year" to keep track of the year the row was referring to.

The final dataset was integrated with two indexes:
- Human Development Index
- Industrialization Index

OpenRefine was used to homogenize the country's names through the datasets. Rows with more than one null value were **dropped** (three observations total).

AESTHETIC

FONT

We decided to use
DROID SANS
for the text in the dashboard because of its clear shape. However,
for the titles, to capture attention, we used
Oswald.
For the presentation we opted for
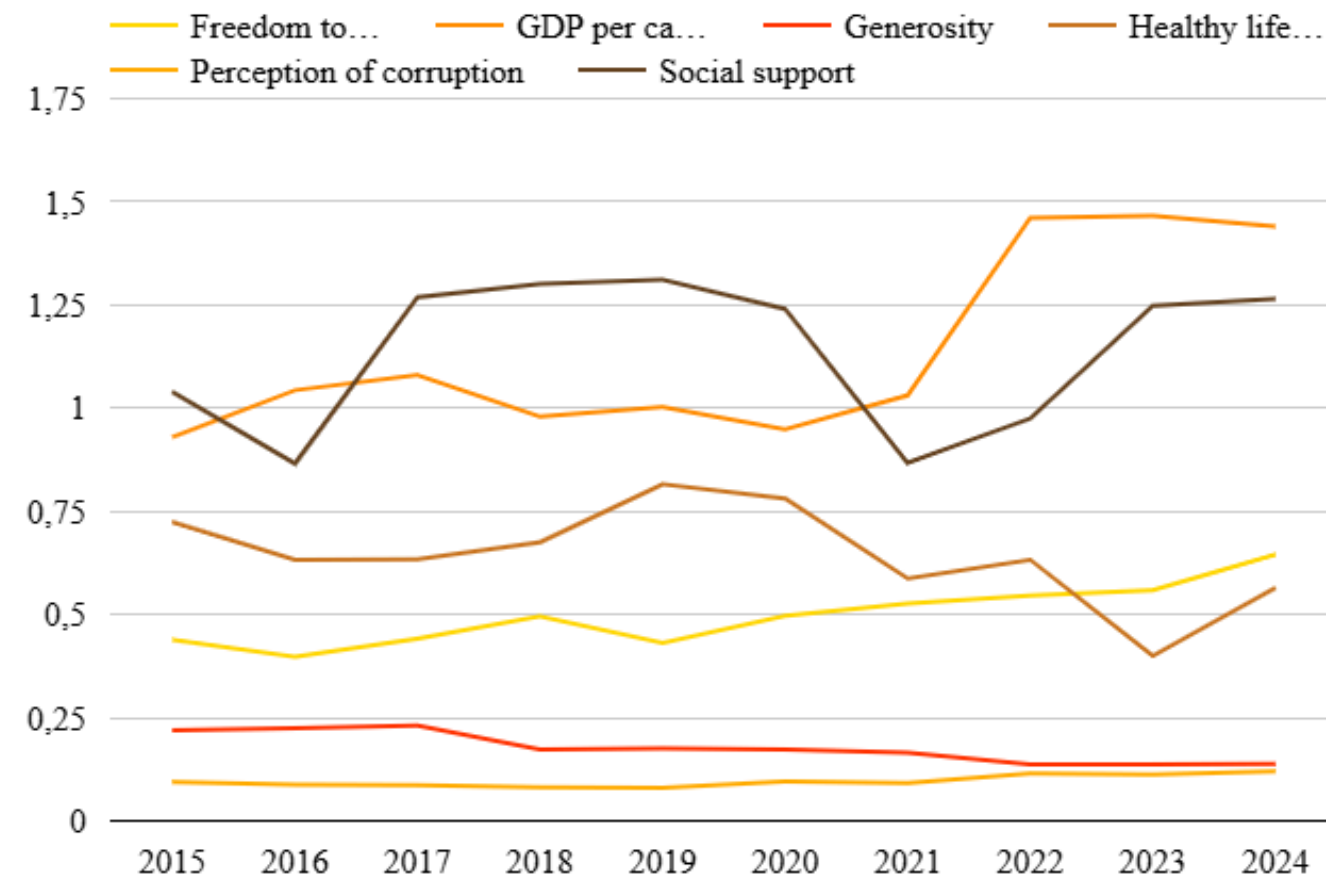**CARDO**
because of its elegant shape.

COLORS

The dominant color is **Bright Yellow** #FFF1A7, considered the color of Happiness. A palette, ranging from yellow to orange to red, was used to represent the spectrum of values in the plots. **White** has been chosen as the secondary color, while **Dark Grey** #343232 is the tertiary color.
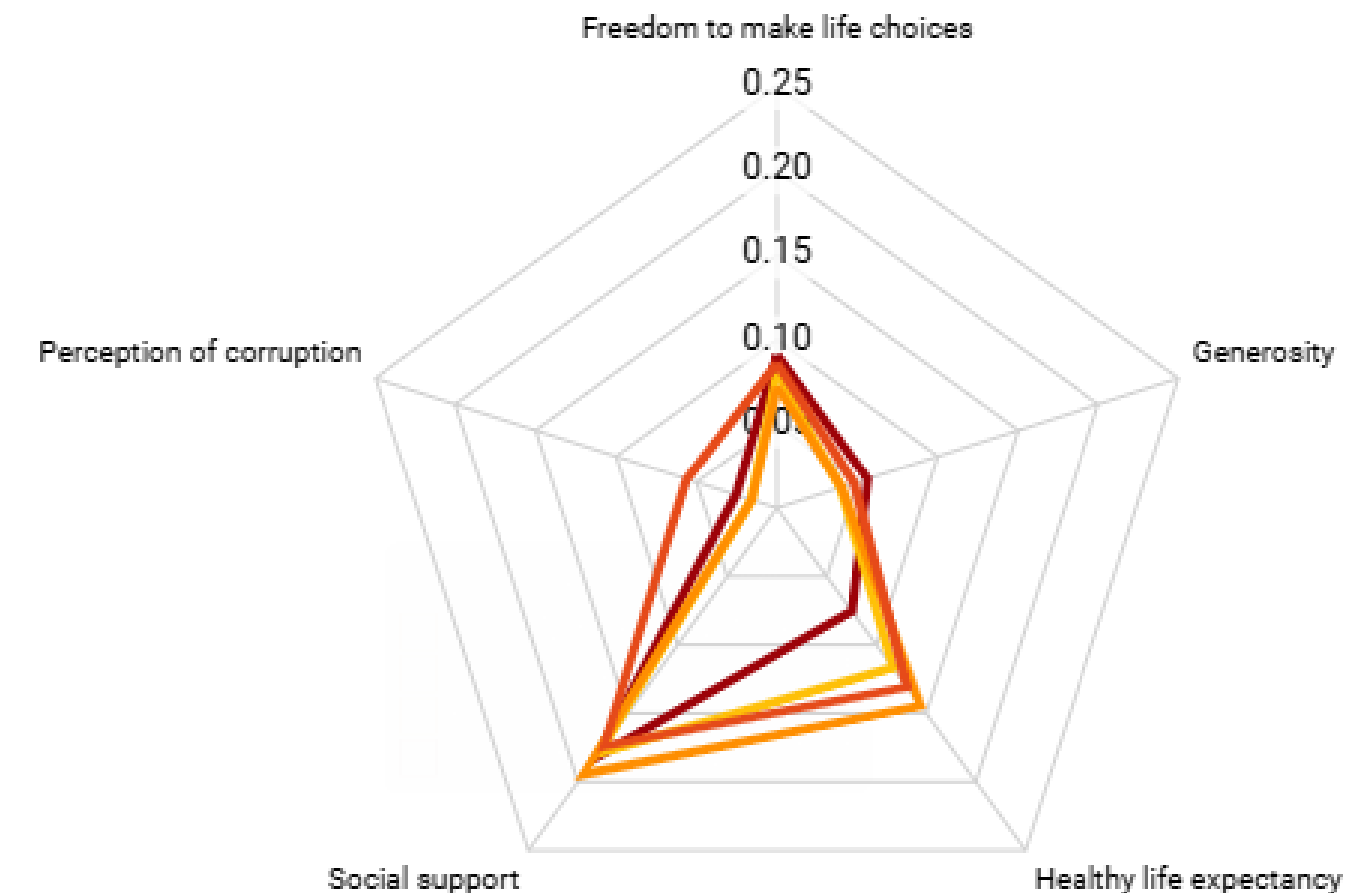
GRAPHICS

TIME SERIES

RADAR CHART

This chart allowed us to evaluate the relative importance of each component contributing to the Happiness Score during the specified time interval in each Country.

Another use was to visualize the trend in the scores of the macro regions over the years, allowing us to look at the happiest regions as well as the development during time.
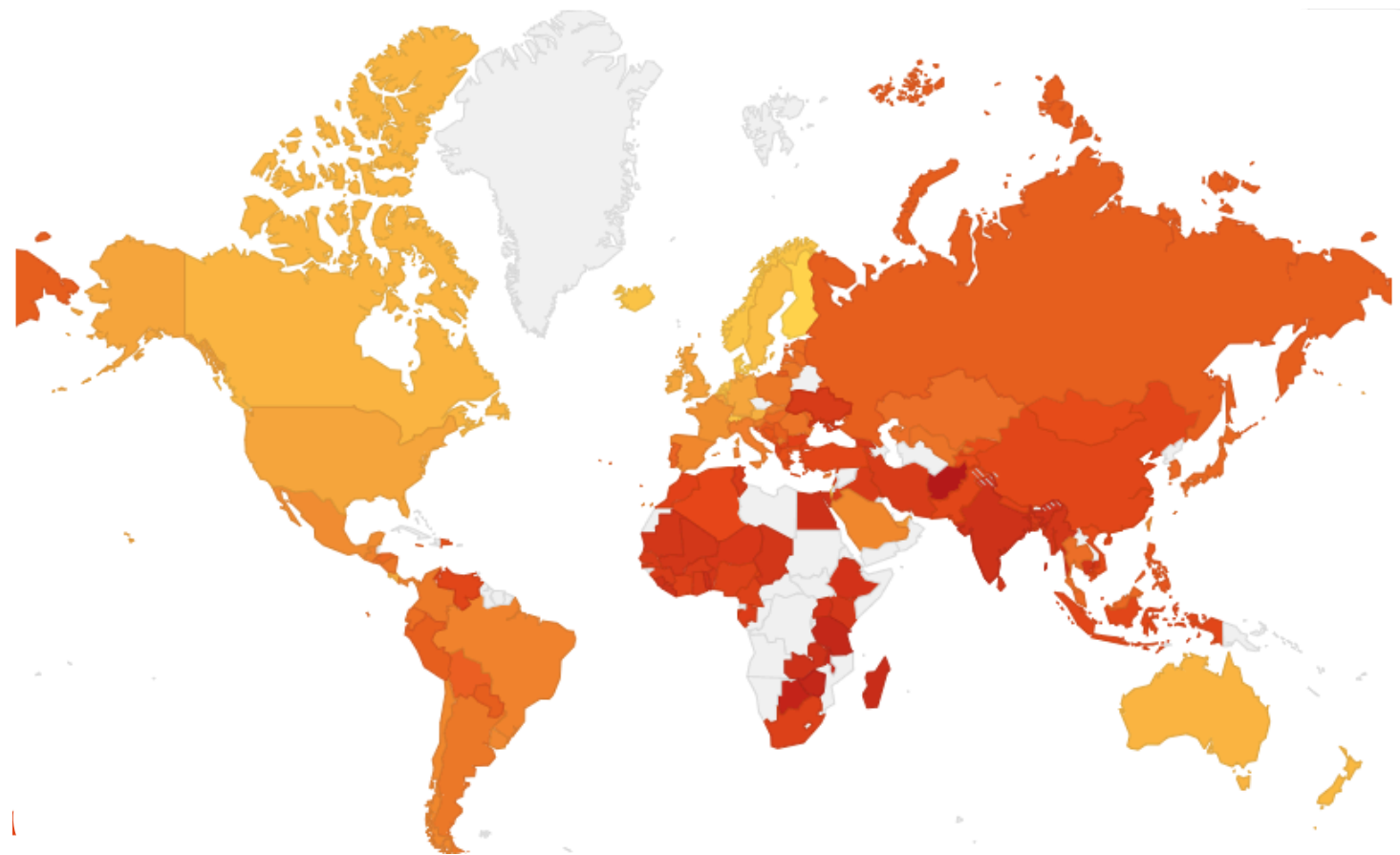
This plot is useful to visualize the groups obtained with the cluster analysis. Each group is composed of countries that values similar components of happiness. For example, the red group, gives more importance to perception of corruption in respect to the others. We created clusters, using Ward's method, for both 2015 and 2024.
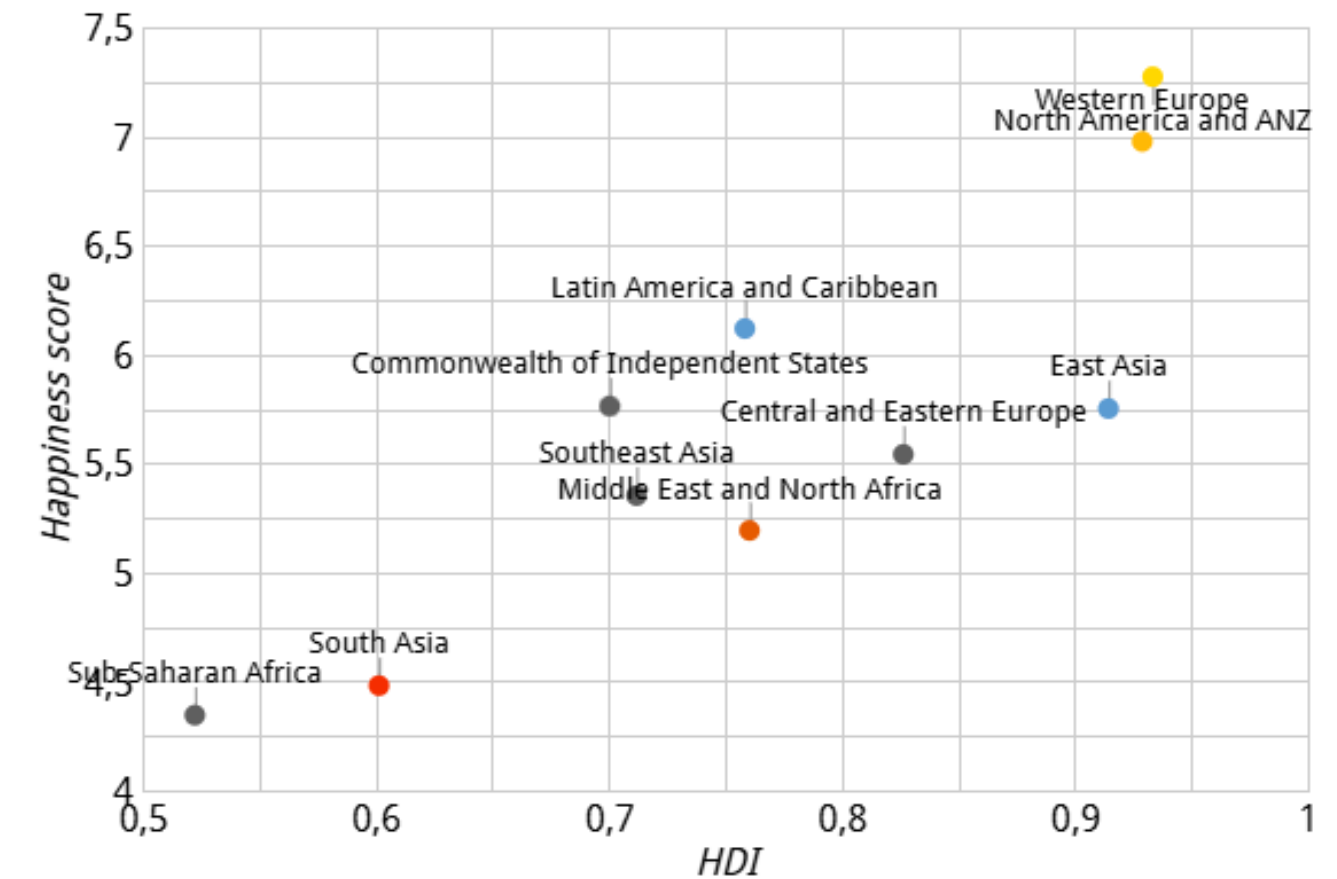
GRAPHICS

ATLAS HEATMAP

The heatmaps have two aims: to visualize the happiness scores around the globe and to understand the distribution of the clusters we created.
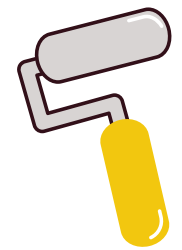
It is clear that higher values (in yellow) can be found in the 'Western' part of the World.
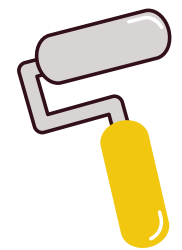
SCATTERPLOT

This plot was fundamental to analyze correlations between variables. It appears that the **HDI** has a stronger linear correlation with the happiness score than the **Industrialization index**. This means, generally, that the more developed a country is, the happier people are.
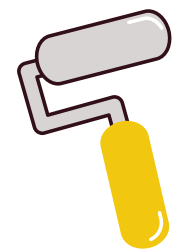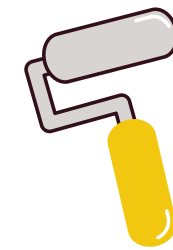
CHANGES

Improved consistency throughout the dashboard. Homogenization of titles, text boxes, labels and margins
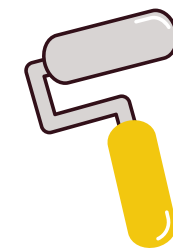
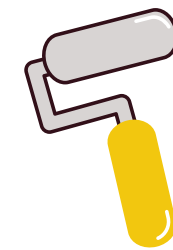We gave a structure to the pages, fixed proportion and distances between objects

Aesthetic details on color and font

Correction of the order of plots and analysis, giving a more straight forward understanding of the narrative

Focus on East Asia to investigate insights from other plots

Clarifications and attentions to details

INSIGHTS AND CONCLUSIONS

🔖 The **happiest region** in the world seems to be **Western Europe**. Happier countries in Western Europe appear to distribute in the **northern areas**. The region which emerged as the **least happy** is **South Asia**.

🔖 The importance of **GDP per capita** is **predominant** in **Europe**. Indipendent States attribute their happiness to making **free choices**, like Eastern and Central Europe.

🔖 For the majority of regions, happiness **hasn't followed** a **growing trend** in the years pertaining to this analysis.

🔖 The **CoViD–19** did **not** affect the overall *Happiness scores*, however it influenced the importance that countries gave to **some aspects** of life, for example *GDP per capita* has risen while *Social support* went down.

🔖 The clusters showed us how countries are aggregated naturally based on the metrics that make up the *Happiness score*. In particular, the **happiest countries** appear to have a keener **perception of statal corruption**, indicating higher **education**.