**Slide 1 – Beth**

Happy Saturday to you all!

After tossing around lots of different ideas, our team selected to present a topic that had a bit more positivity (we hope) – World Happiness.

**Slide 2 – Beth**

Background

Upon researching more about the topic we selected, the World Happiness Report was first published in 2012. Data was compiled from data gathered from the Gallup World Poll, where approximately 1,000 people from each country (average of 156 countries) were polled using the Cantril ladder. The Cantril ladder is where 0 is the lowest rank and 10 being the highest. As you can see by the graphic to the right, this will help explain the overall ranking for happiness.

**Slide 3 - Beth**

The Data

There are 6 components of data used to determine overall happiness.

* GDP – Gross Domestic Product, economic snapshot of the country
* Social Support – This includes all type of personal relationships (family, friends, even mental health support)
* Healthy life expectancy – What is the overall outlook on diet, exercise and availability to doctors?
* Freedom to make life choices – such as religion, political environment, and personal choice (marriage, family planning, etc.)
* Generosity – what citizens do to support others in their community (charity, volunteerism)
* Perceptions of Corruption – what is the misuse of public power for private benefit

This slide shows how each of these components are weighted in determining the overall happiness scores based upon to data pulled from 2015 through 2019. It was not surprising to see that GDP and social support were key components to measuring happiness.

**Slide 4 - Zack**

Initial Analysis

We opted to pull data from 2015 through 2019. There were two reasons why data from 2020 was not used: 1) the data may be too new and there could be a high potential for bad data, and 2) don’t we all just want to forget 2020 anyway.

Once we completed pulling and merging our datasets, we conducted some activities to assure that our data was clean.

* We checked for null (NaN) values, where we found none.
* We checked the data types to assure these were expected.
* Identified and renamed instances where country name appeared to be the same, such as Trinidad and Tabago vs Trinidad & Tabago. 5 renamings were complete.
* Removed instances where a country did not appear on all files.

**Slide 5, 6, 7 - Zack**

What did we learn?

Speak to the different scatter plots.

* GDP vs Healthy life expectancy – this was a different plot, where we wanted to see if the data showed any correlation and as you can see, there is some correlation.
* GDP to Happiness
* Social support to happiness
* Health to happiness
* Freedom to happiness
* Generosity to happiness
* Corruption to happiness

**Slide 8 to 12 - Matt**

We then took each year’s top and bottom 10 ranked countries as stacked bar charts to see how they compared.

**Slide 13 - Jared**

Overall Correlation map

**Slide 14 - Darrius**

2019 Overall Happiness World Map