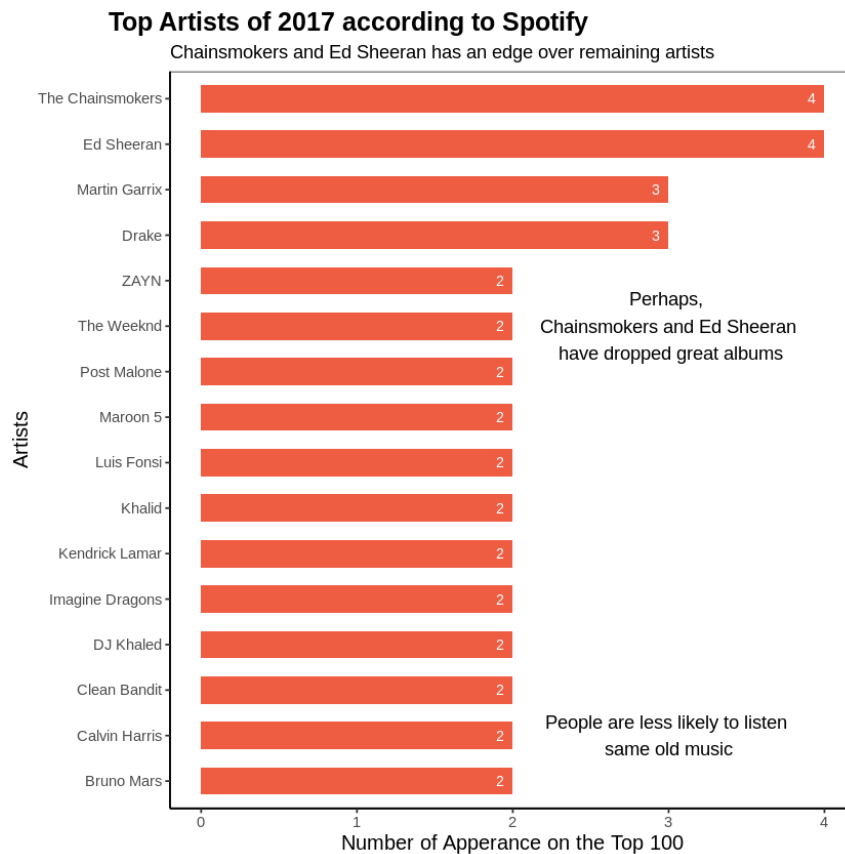


# Top Songs on Spotify: What makes them popular?

Below visualizations are intended for the people who are interested in music, and wants to know how are the songs of the top artists in the world vary over time in Spotify's Top 100 chart. What are the key features in their music that sets them apart from the rest of the artists? In this document, I'll take a look at the audio features of the tracks in **Spotify's Top Songs of 2017** playlist and try to highlight the common patterns behind the audio features of these songs.

## Artists dominating the Top List

Let's determine the artists who have more than one song on the Top 100 Songs List

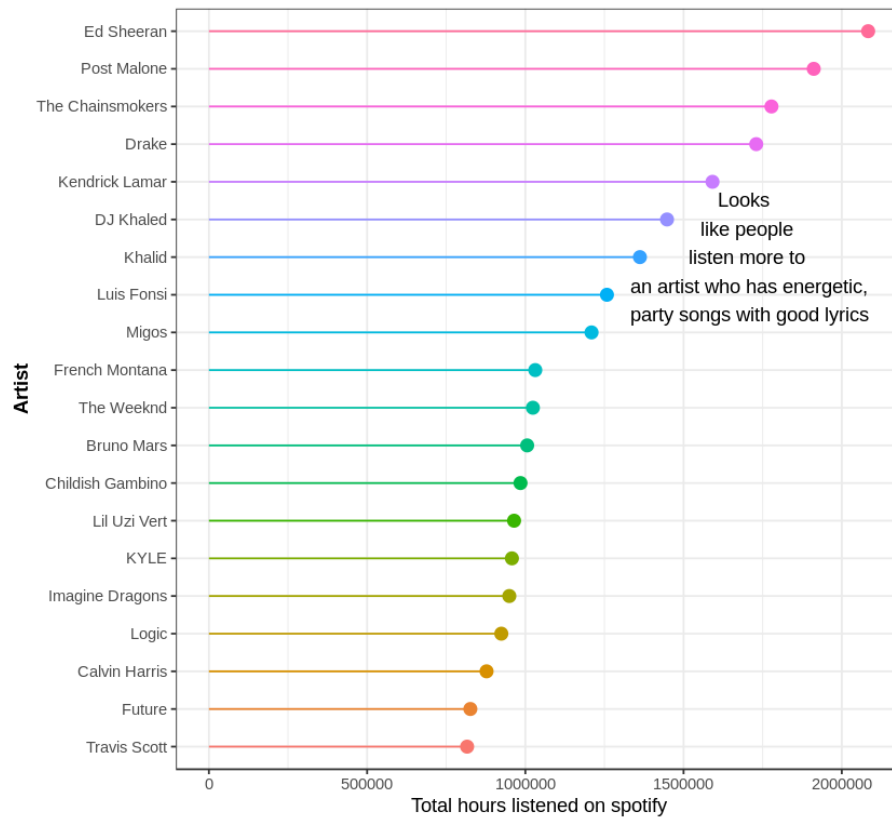


So, it seems like **Ed Sheeran** and **The Chainsmokers** rocked the 2017 with 4 different songs on the Top list, while **Drake** and **Martin Garrix** are following them with 3 different songs.

# Top Artists by the Total Playing Time

## Top Artists of 2017 in US by Playing time

Surprisingly people listened more to Ed Sheeran and Post Malone than Chainsmokers despite in lower position in Top 100

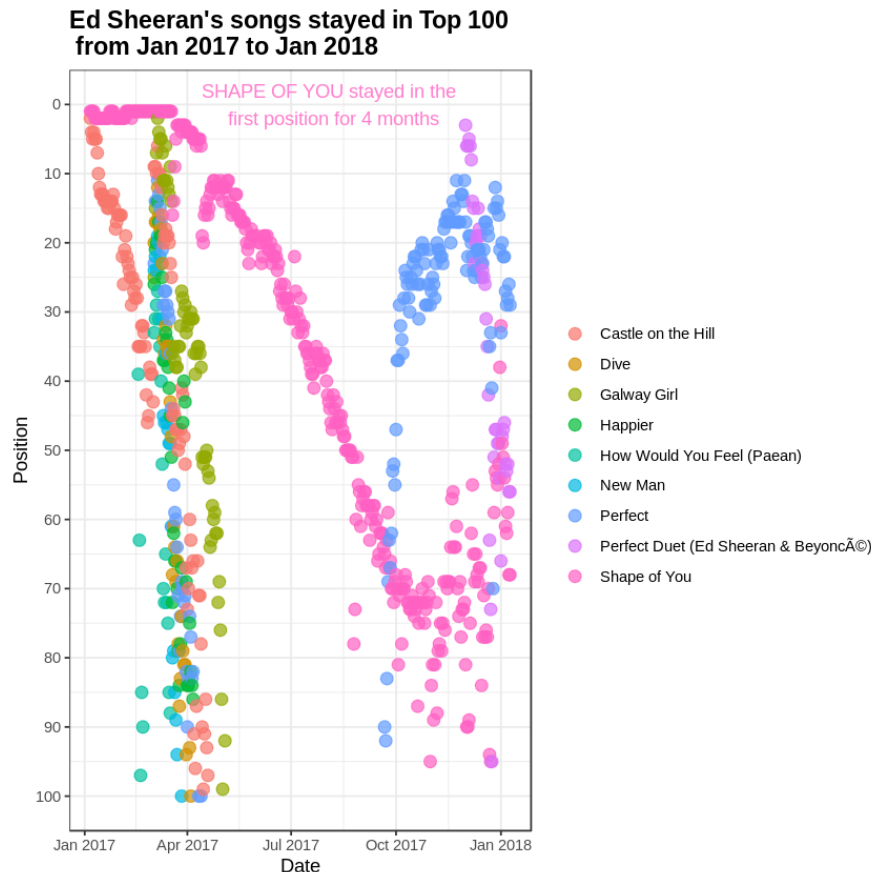


Now **Post Malone** just started to feel like a rockstar! If we take the playing time into consideration, **Ed Sheeran** still has the top spot. But **Post Malone** and **Kendrick Lamar** leapt forward now.

## How did Ed Sheeran's Songs perform in 2017 on daily basis?

Since 2017 was an unforgettable year for **Ed Sheeran**, I'd like to see how his songs perform in US on each day of 2017.

**Ed Sheeran** had 19 different songs displayed on the Top 100 Songs List in US at least for one day. Since it might be confusing to plot all of that, I'll only take the ones which **stayed on the Top 100 List for at least 20 different days in 2017**.

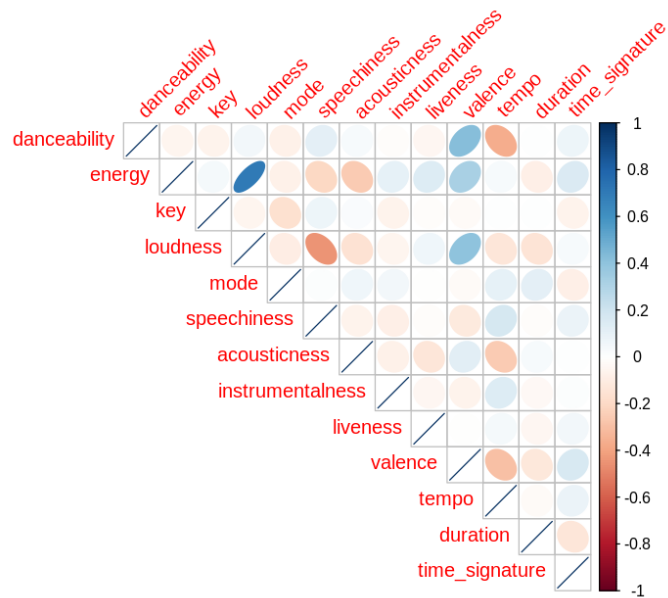


Wow, there are lots of different comments about this graph!

- First, we can see why it's not surprising that *Shape of You* is the best on the Top Songs List in 2017.
- Secondly, March was the month of **Ed Sheeran** which is probably the result of the his last album release, which is on *March 3, 2017*.
- Thirdly, the late rise of **Perfect** is probably because of its video clip, which is released on *November 3* and **Perfect Duet** is an example of its popularity.
- And lastly, except the songs above, **Castle on the Hill** and **Galway Girl** can be considered to be stayed longer than the other songs on the album.

## Correlation between variables

In order to understand the correlation between variables



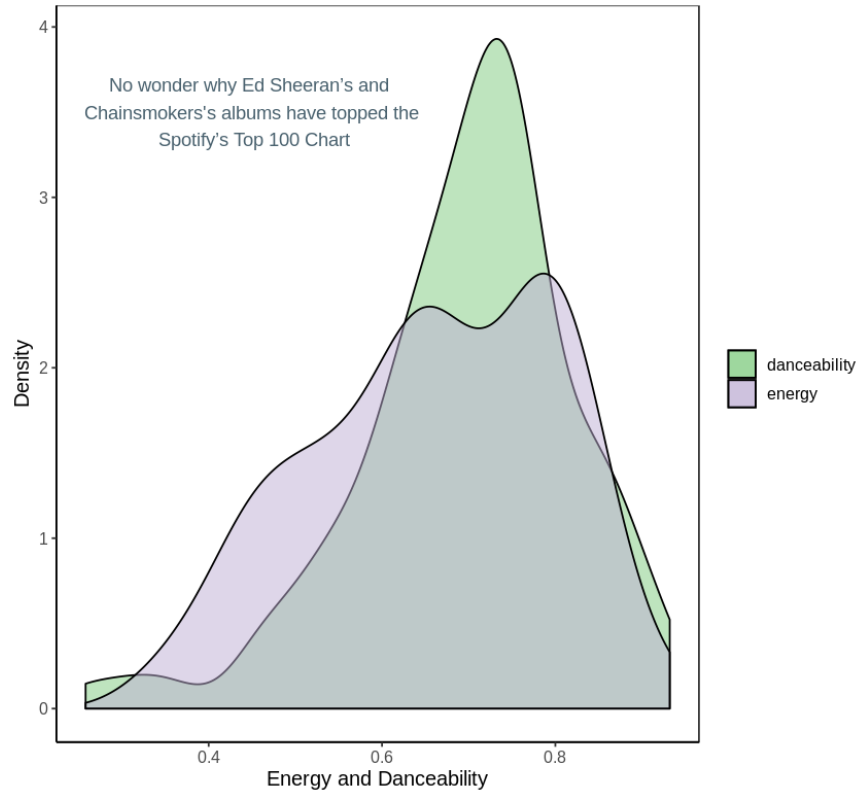
- It seems like energy and loudness are highly positively correlated.
  - Also, valence is positively correlated with danceability and energy. Considering happy songs make people energetic and want to dance, the correlation makes a lot sense.
- \*Interestingly, speechiness and loudness are negatively correlated with each other.

## Density Plots of Correlated Variables

We've already determined that energy danceability are positively correlated; but this time, let's see how these variables are distributed over 100 songs.

### The more Energetic & Danceability the more popular

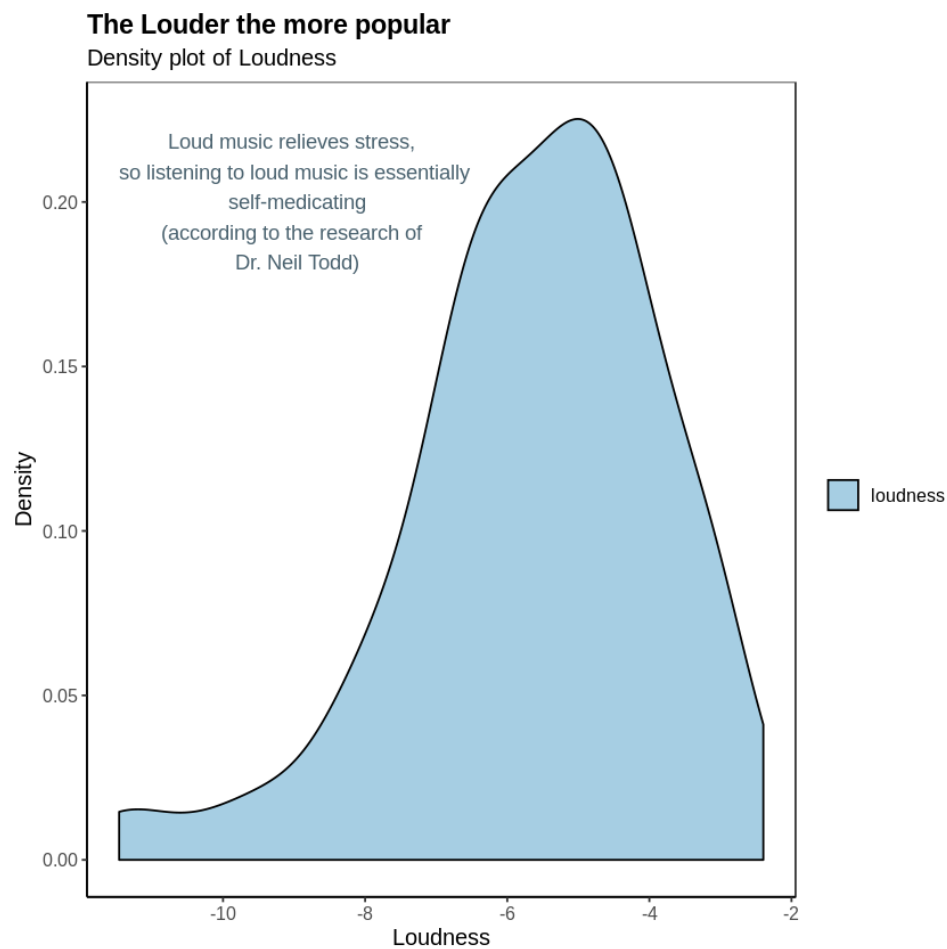
Density plot of Energy and Danceability



As it can be seen on the graph, since these variables are positively correlated and have limited between **(0,1)**, the distribution of these variables look similar to each other.

## The Louder the More Popular

After we acknowledge the density of energy variable, we can guess the density of loudness must be high, with the help of Correlation Table above. Let's see how loud the Top 100 Songs of 2017 are.



As we've guessed, the Top 100 Songs are mostly loud.

No wonder why Ed Sheeran's and Chainsmokers albums have topped the Spotify's Top 100 Chart