



HAVE MUSIC LISTENING HABITS
CHANGED OVER THE LAST 6 YEARS? |



PROJECT AIM

In this project we aim to understand **whether music listening habits have changed** in the last 6 years.

Two main reasons lead us to believe this might be the case:

- The global COVID pandemic;
- The rise of social network Tik-Tok

RESEARCH QUESTIONS



1. Have the **genres** people listen to changed?



2. Have the **artists** people listen to changed?



3. Is the **duration** of the most popular songs decreasing?



4. How have other **track features** changed?

DATA COLLECTION

Every year, Spotify posts a playlist of their top 100 most streamed songs.

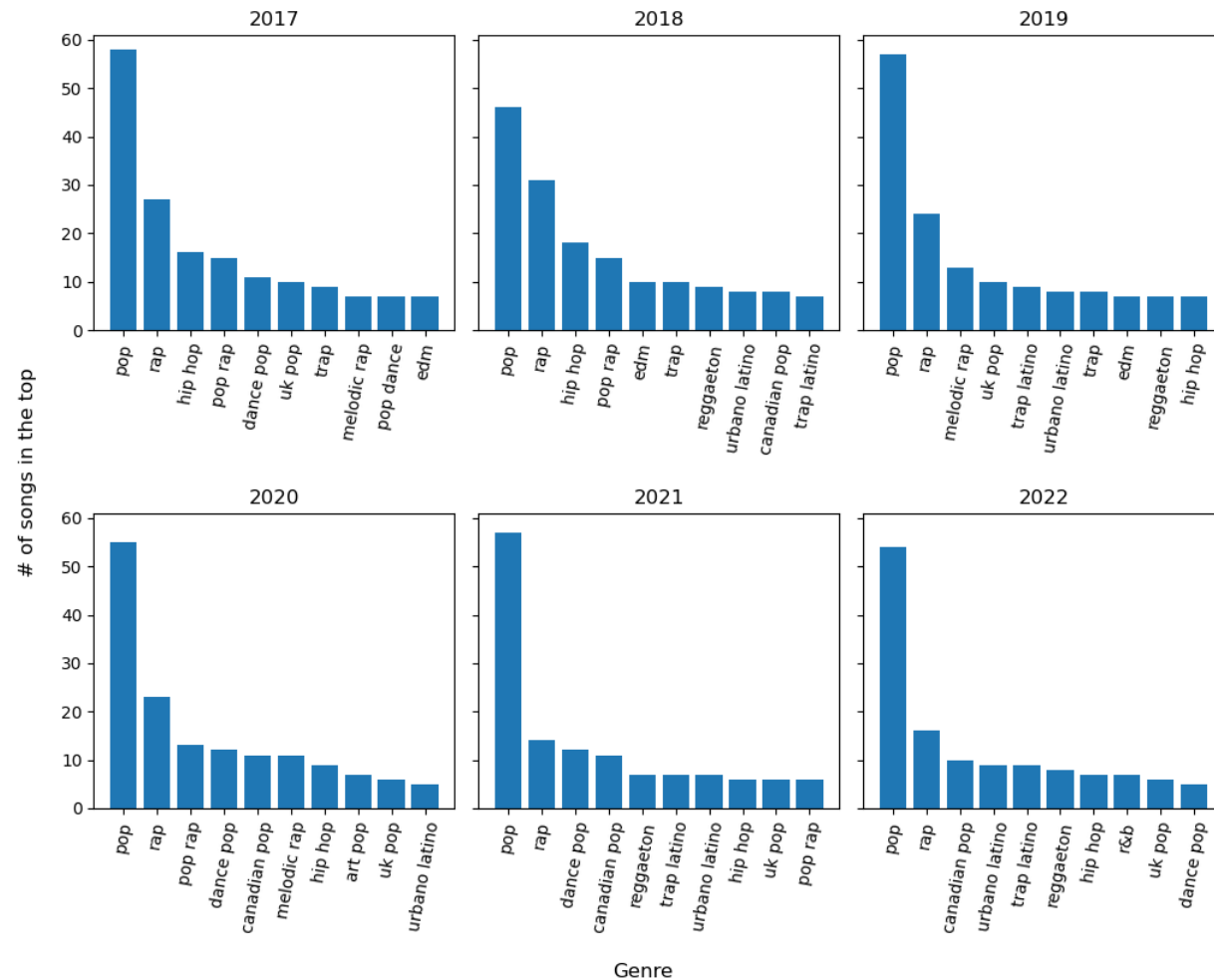


We selected 6 playlists, spanning from 2017 to 2022 and used the [Spotipy API](#) to request the details of all the songs in these playlists, including:

- Track id
- Track name
- Track popularity
- Track features
- Artist id
- Artist name
- Artist genre

1. HAVE THE GENRES PEOPLE LISTEN TO CHANGED?

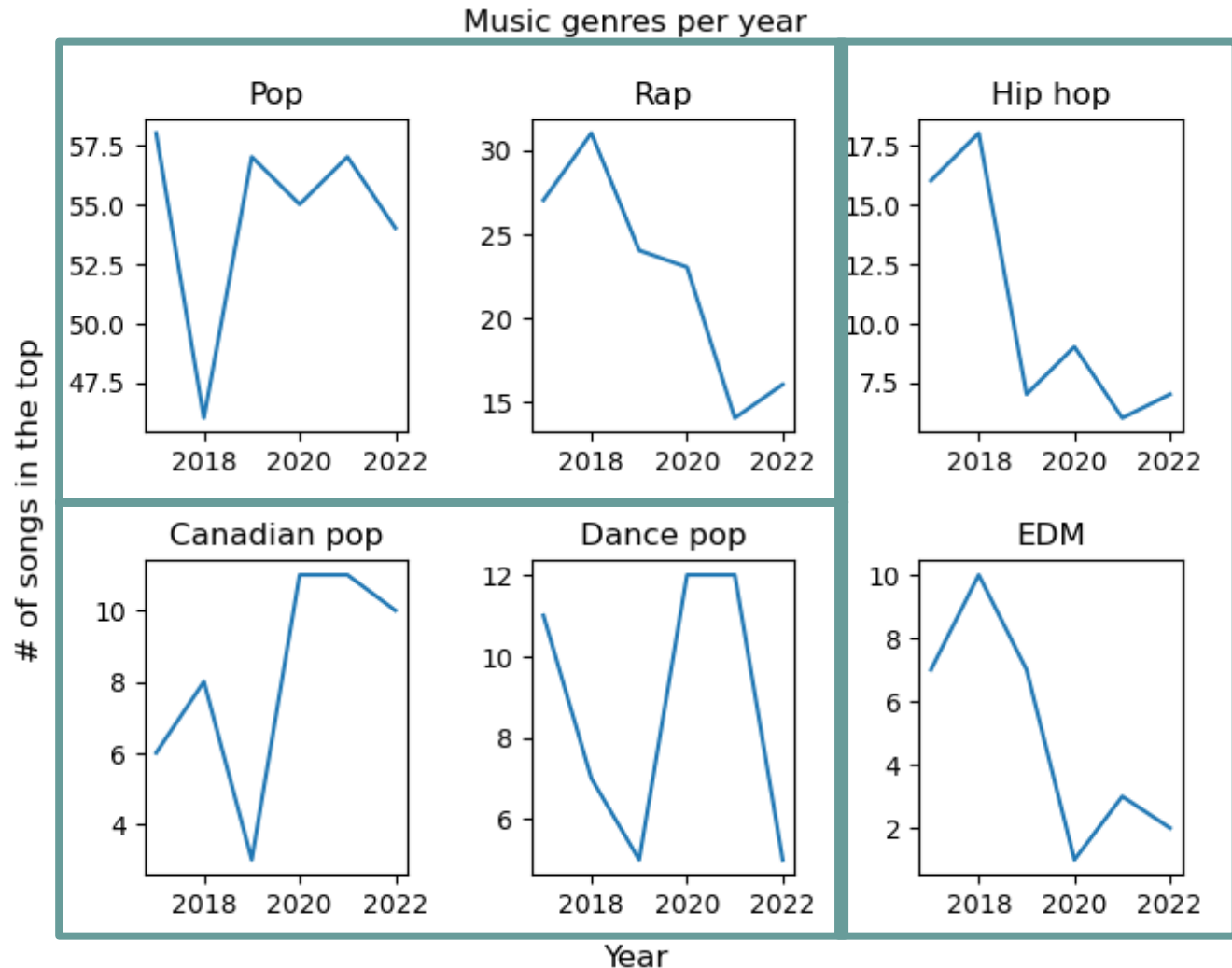
Top 10 genres per year (number of songs)



TOP 10 GENRES
(NUMBER OF SONGS IN TOP 100)

Whilst some genres have stayed consistently in the top 10 (e.g., pop and rap), others fluctuate significantly throughout the 6 years

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TOP 10 GENRES
(NUMBER OF SONGS IN TOP 100)

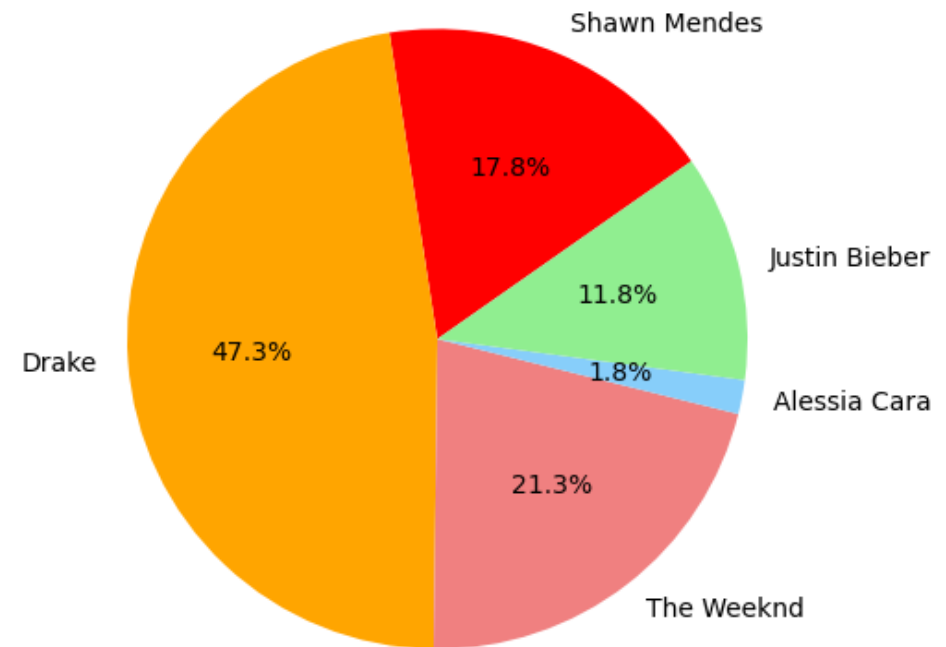
Whilst some genres have stayed consistently in the top 10 (e.g., pop and rap), others fluctuate significantly throughout the 6 years

1. HAVE THE **GENRES** PEOPLE LISTEN TO CHANGED?

DANCE POP

Camila Cabello	Bebe Rexha
Sean Paul	Lady Gaga
Dua Lipa	Doja Cat
Avicii	Joel Corry
P!nk	Black Eyed Peas
Calvin Harris	Shakira
Jason Derulo	David Guetta
DJ Snake	

CANADIAN POP



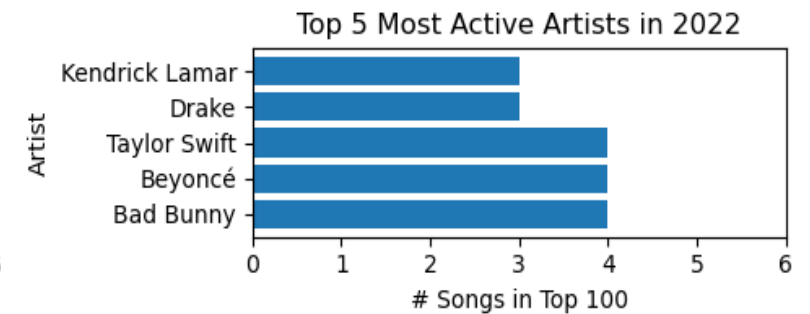
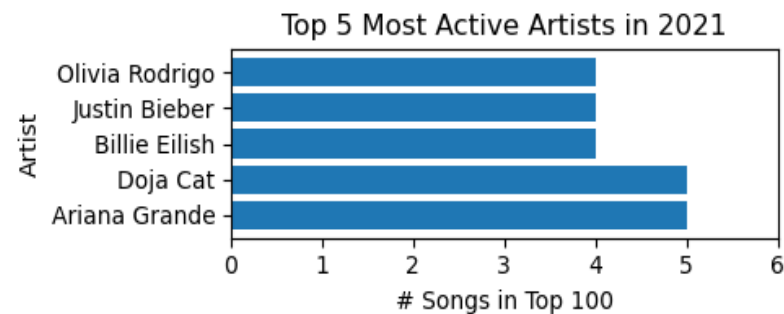
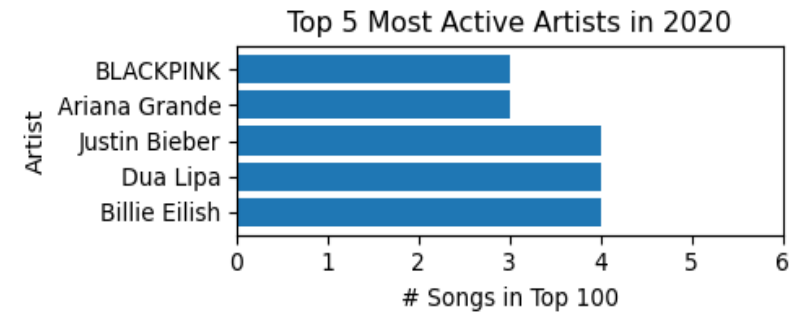
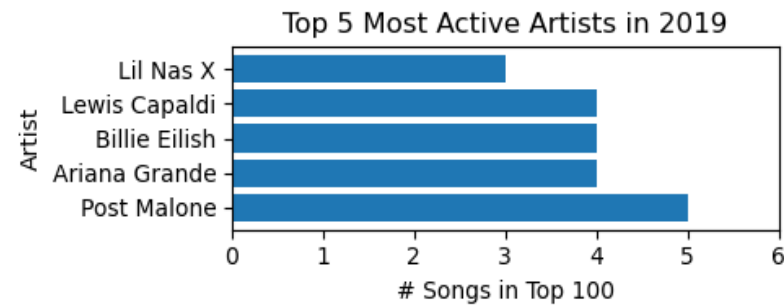
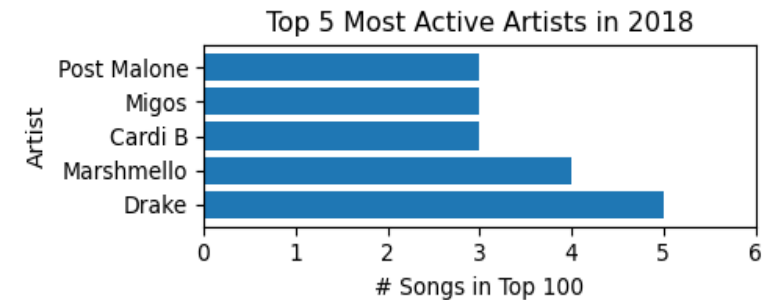
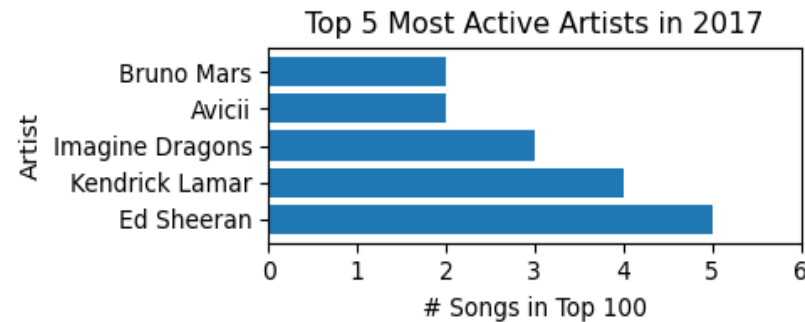
2. HAVE THE **ARTISTS** PEOPLE LISTEN TO CHANGED?

Are there Artists that have managed to be in the top 100 multiple times ?

Year	Average Song Count
2017	1.3
2018	1.3
2019	1.4
2020	1.4
2021	1.6
2022	1.5

2. HAVE THE ARTISTS PEOPLE LISTEN TO CHANGED?

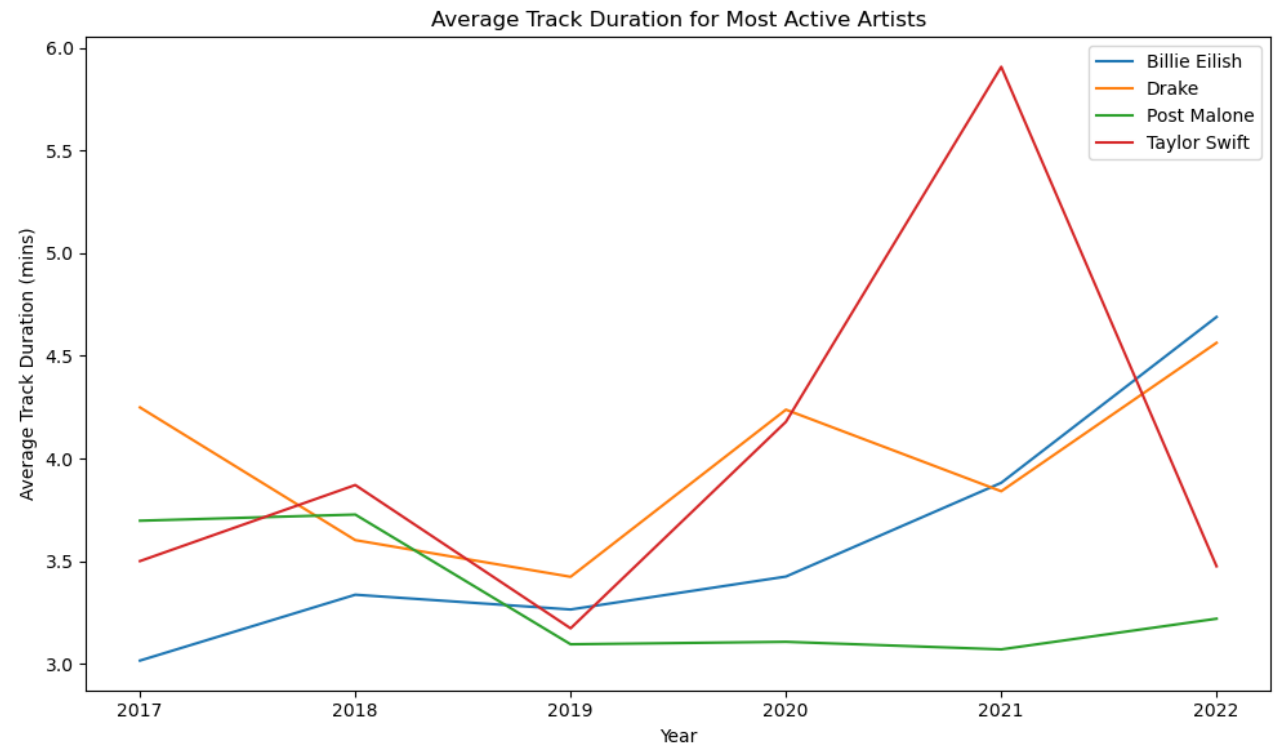
Are there any artists that have been in the top 100 throughout the sampled years?



2. HAVE THE **ARTISTS** PEOPLE LISTEN TO CHANGED?

Who were the consistent artists with multiple hits?

- Only 5 Artists had a song in the top 100 in every year.
- One of the artists didn't appear in the top 5 with more than one top 100 song in a single year in this sampled period (Shawn Mendes)
- There is a noticeable dip in all artists average song duration in 2019



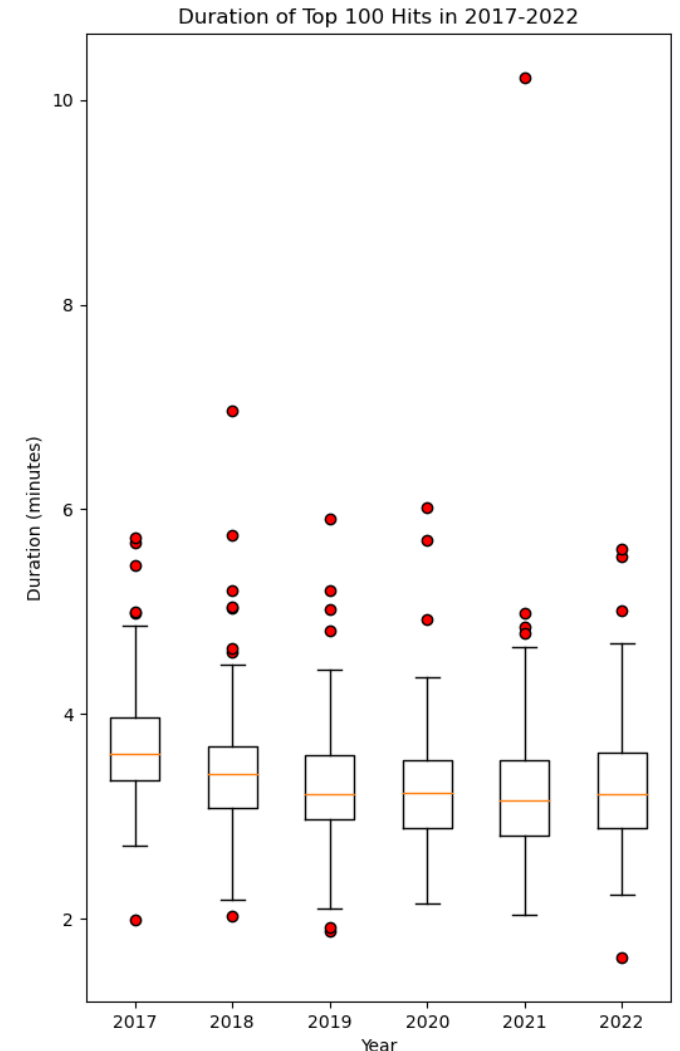
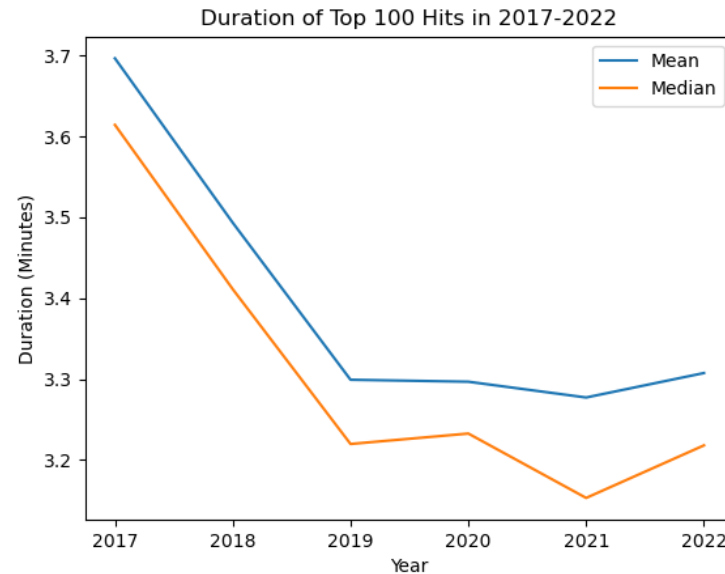
3. IS THE **DURATION** OF THE MOST POPULAR SONGS DECREASING?

Short answer: YES!

How do we know?

Line plot & Boxplot

- BOTH mean duration and median duration decreased
- There are songs with a variety of durations, but this does not affect the overall results



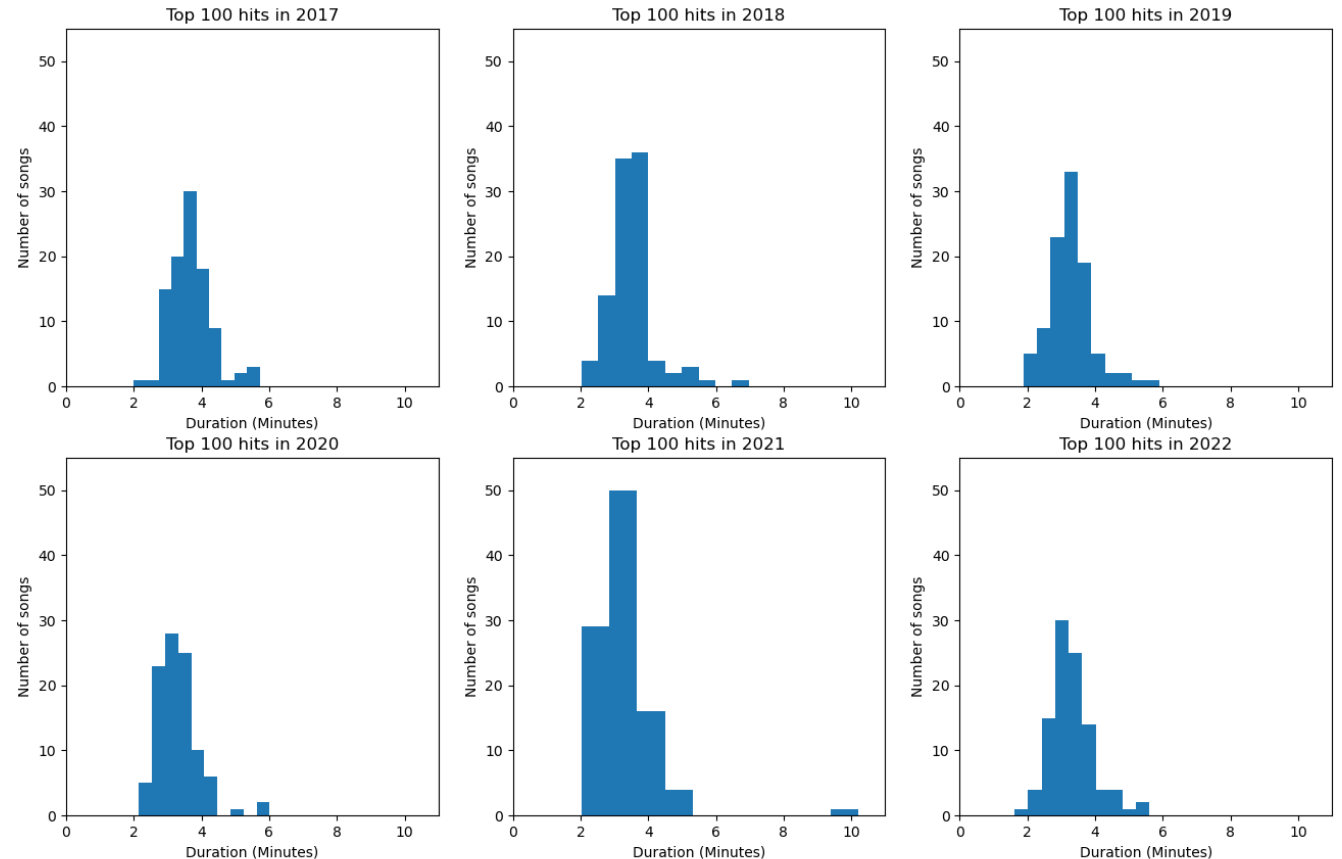
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How do we know?

Histogram

- Shifted left over the years
- More shorter songs in 2022 than in 2017



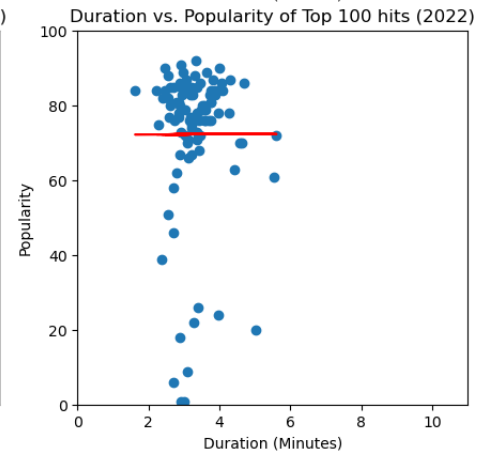
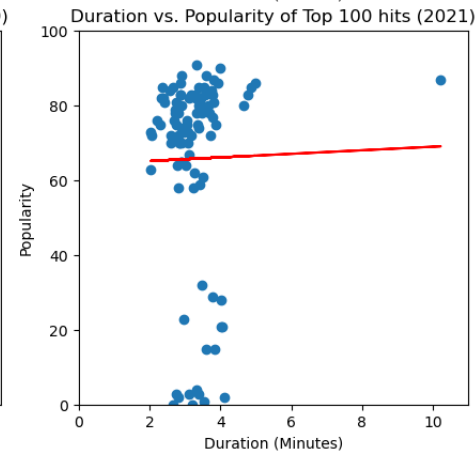
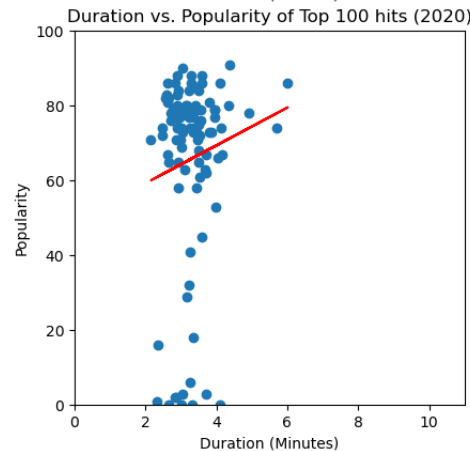
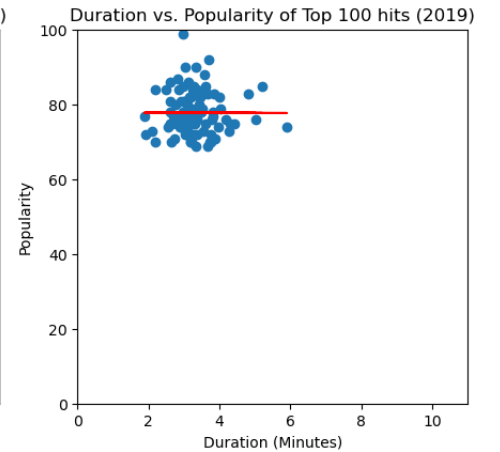
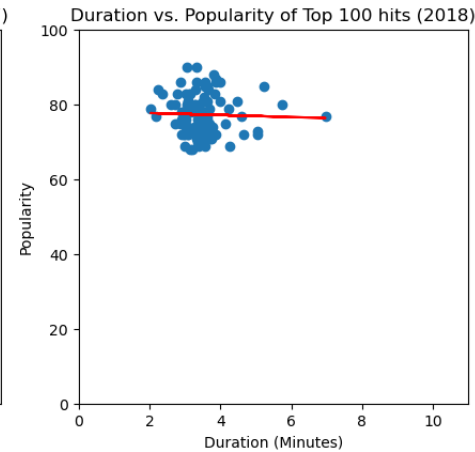
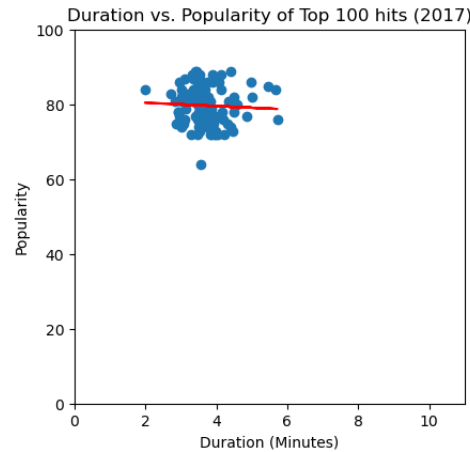
3. IS THE DURATION OF THE MOST POPULAR SONGS DECREASING?

Are shorter songs more popular?

Scatter plot –

Duration Vs. Popularity

■ $-0.06 < R\text{-value} < 0.15$

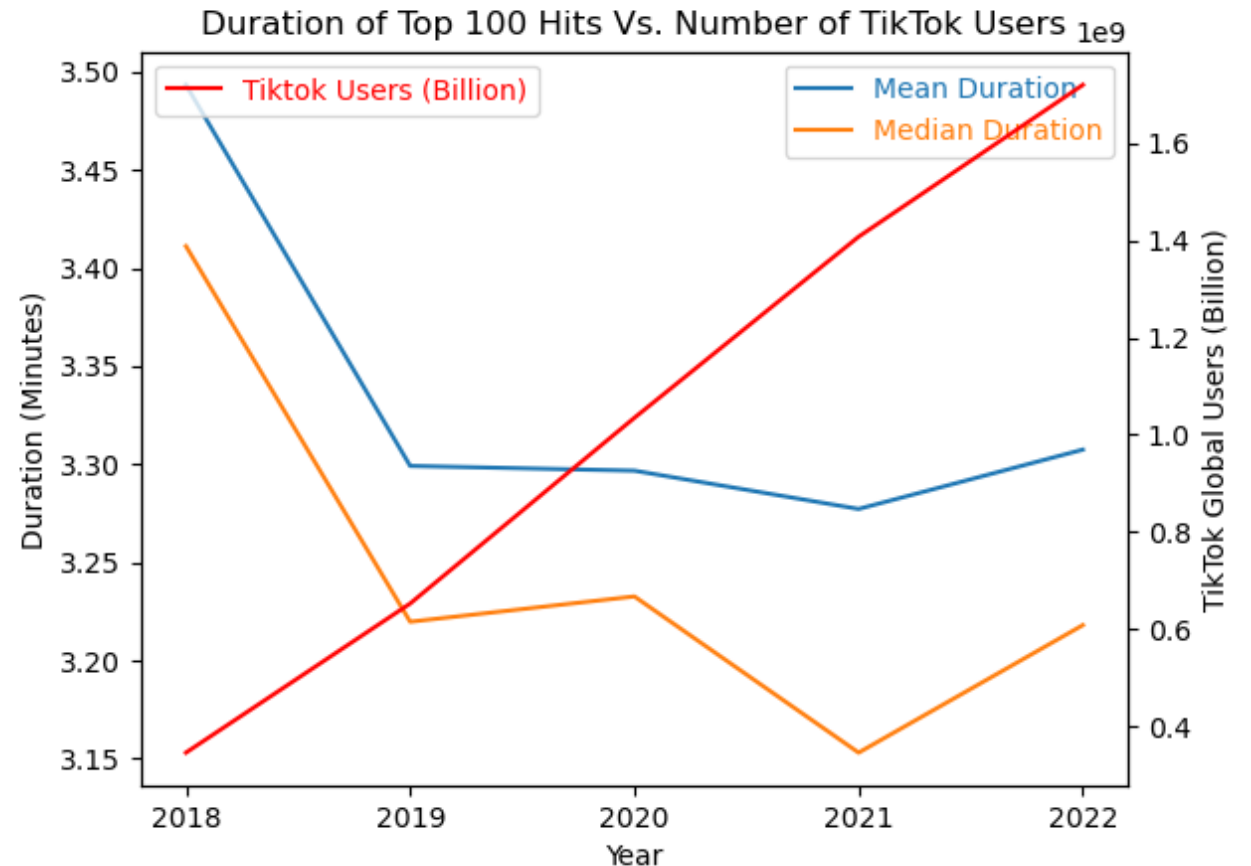


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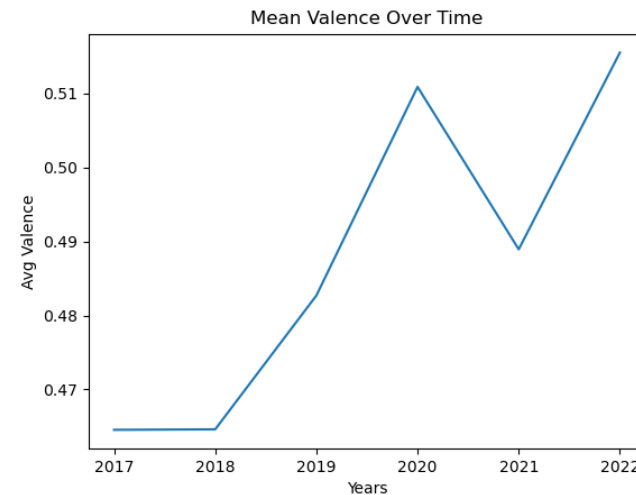
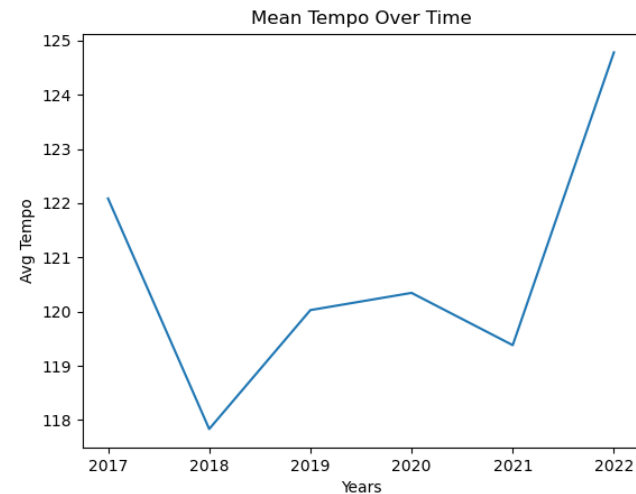
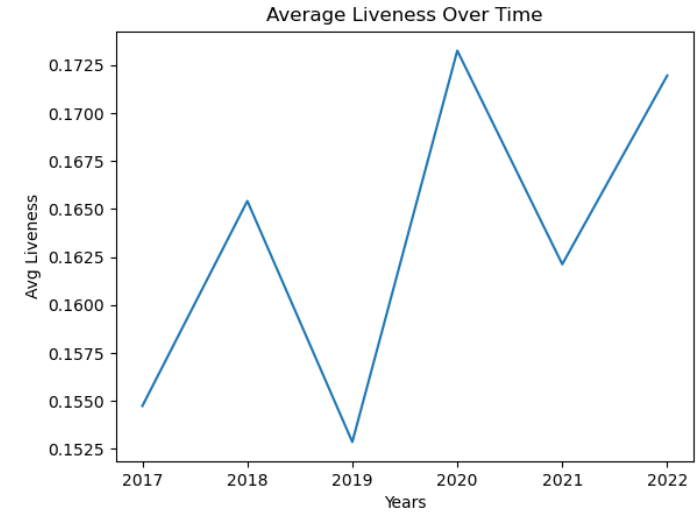
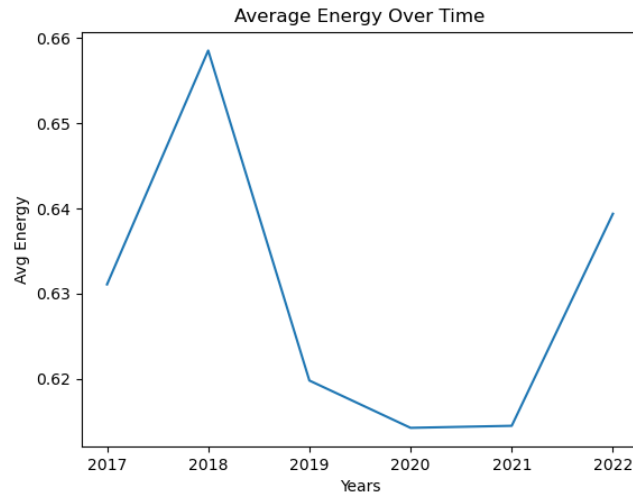
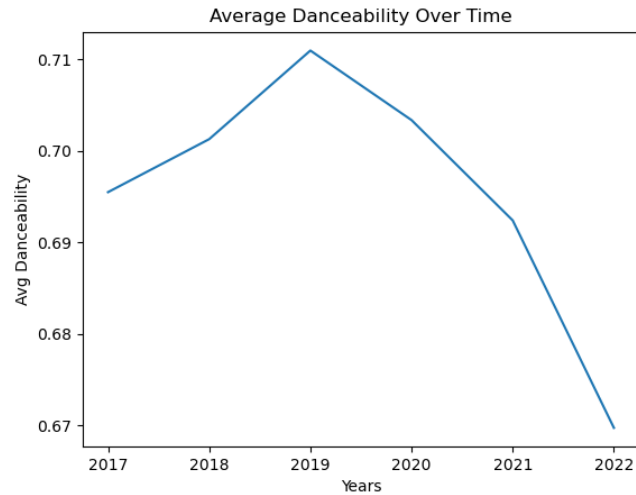
Did the rise of TikTok contribute to the changes in music duration?

Duration Vs. TikTok users

- R-value ~ -0.7



4. HOW HAVE OTHER TRACK FEATURES CHANGED?

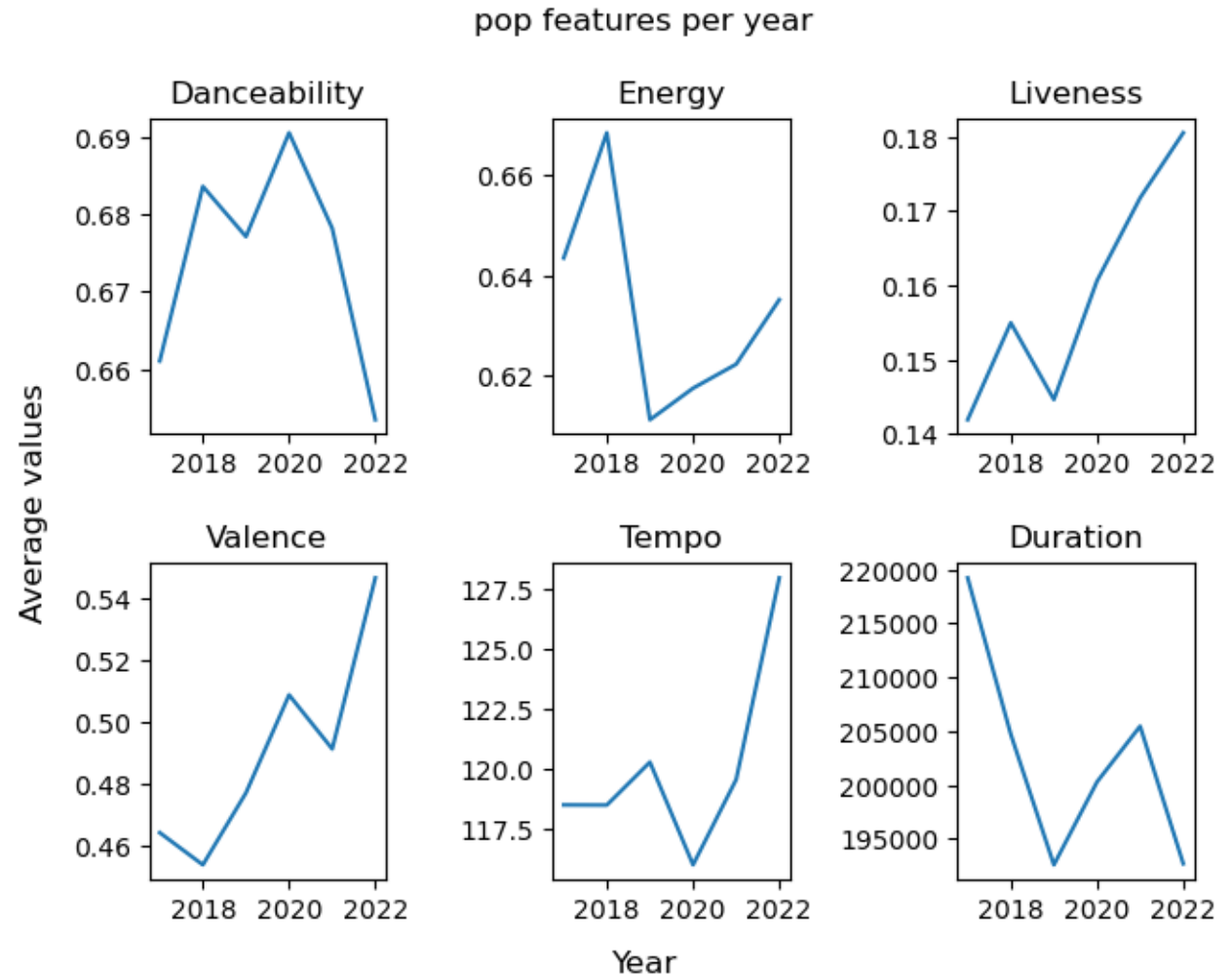


Track features vary across the 6 years, with general down trajectories for danceability and energy. It is interesting to note a peak in valence in 2020 (people listened to more positive songs)

4. HOW HAVE OTHER TRACK FEATURES CHANGED?

Do these trends show up in specific genres?

Pop: downwards trend for danceability and energy, peak in valence in 2020

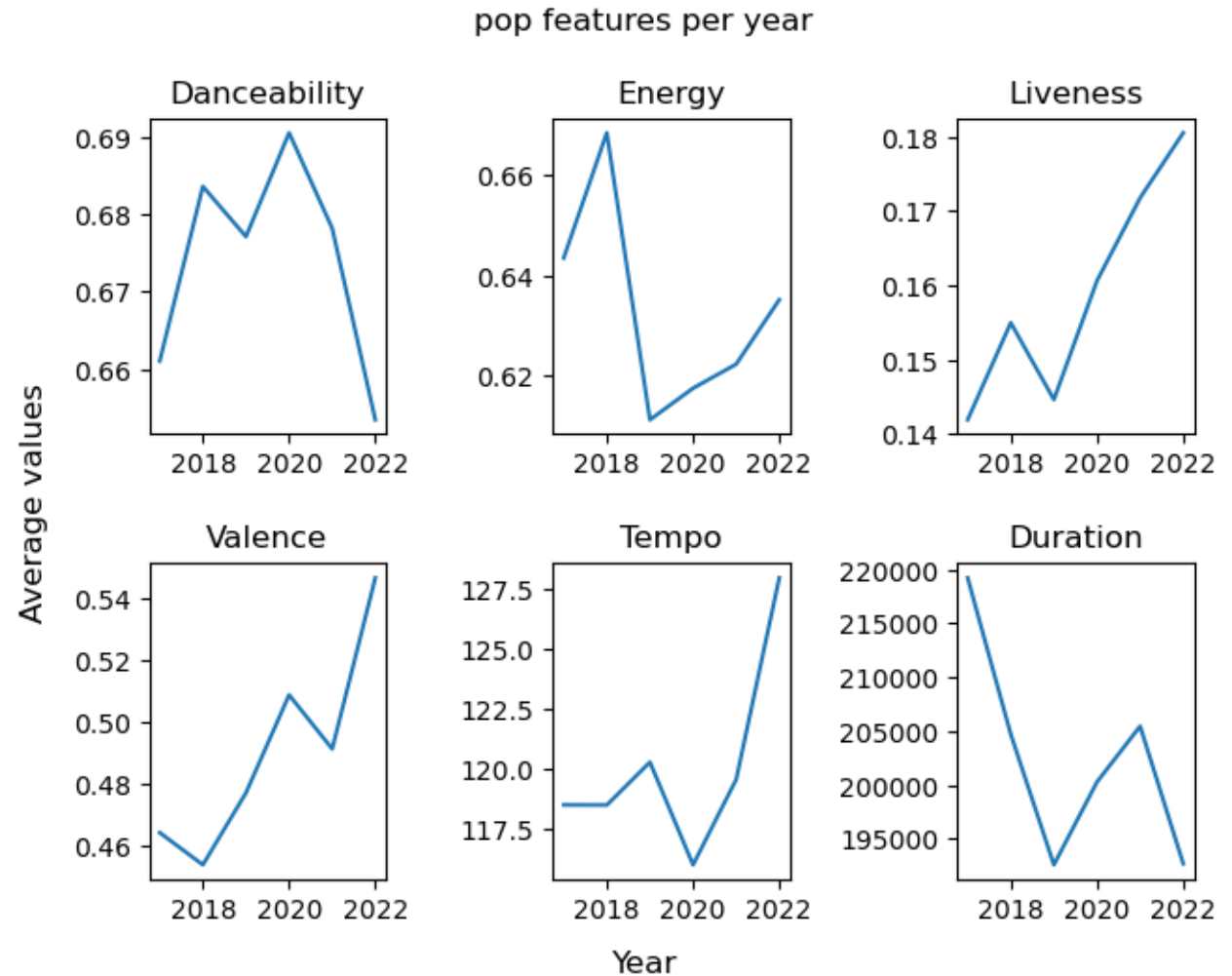


4. HOW HAVE OTHER TRACK FEATURES CHANGED?

Do these trends show up in specific genres?

Pop: downwards trend for danceability and energy, peak in valence in 2020

But... similar trends for other genres

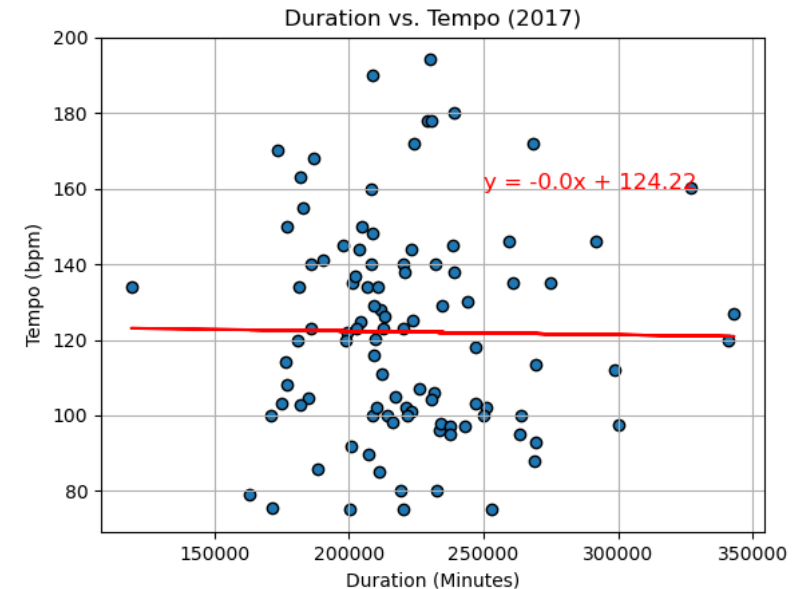
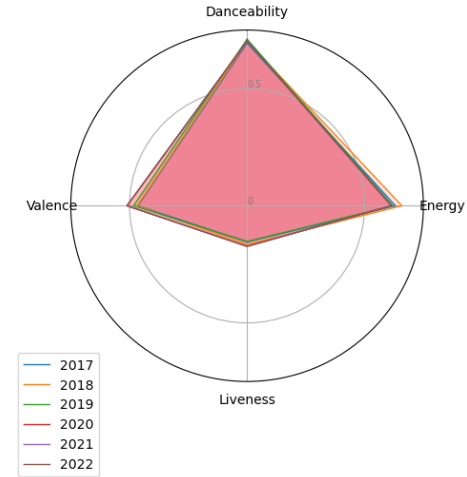
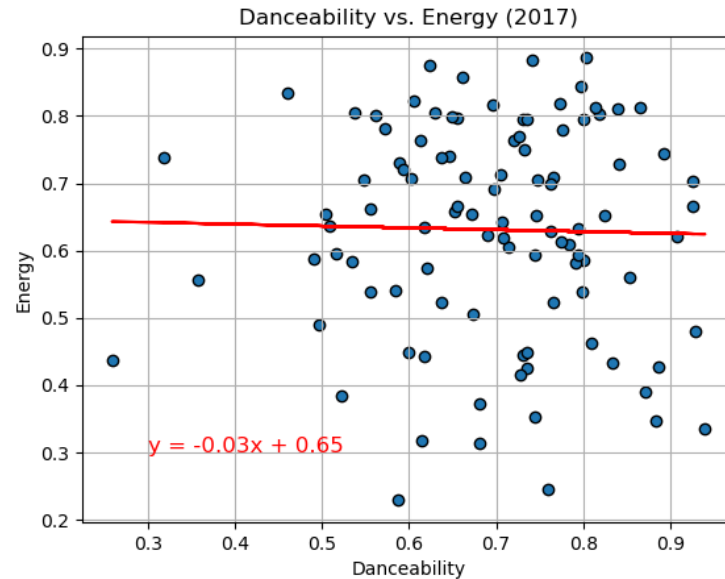


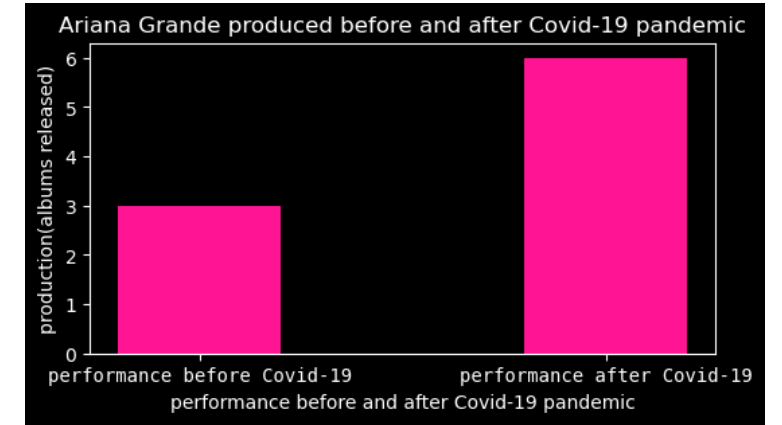
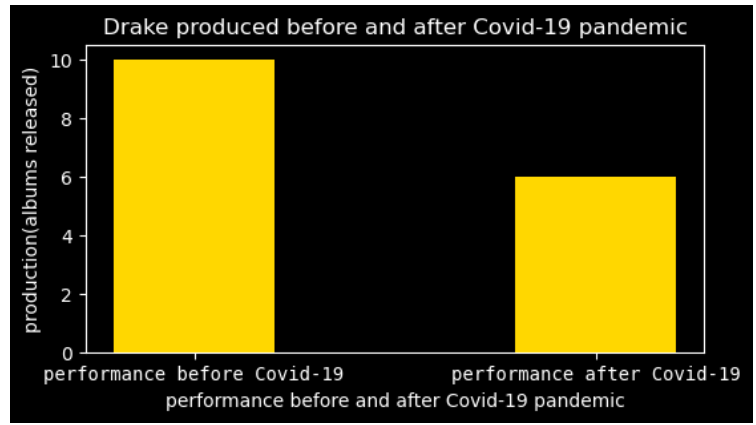
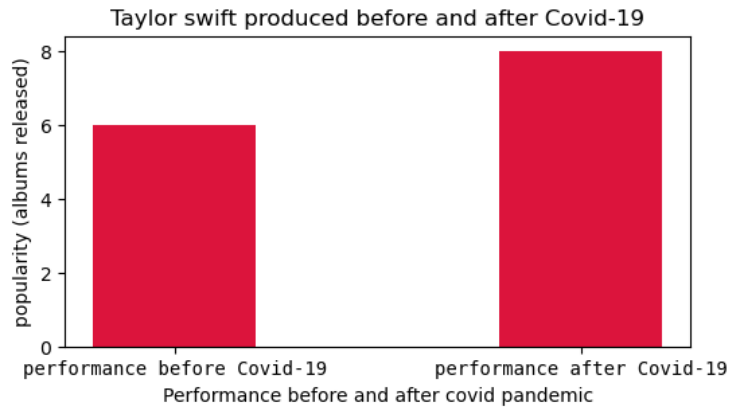
4. HOW HAVE OTHER TRACK FEATURES CHANGED?

Are track features related to one another?

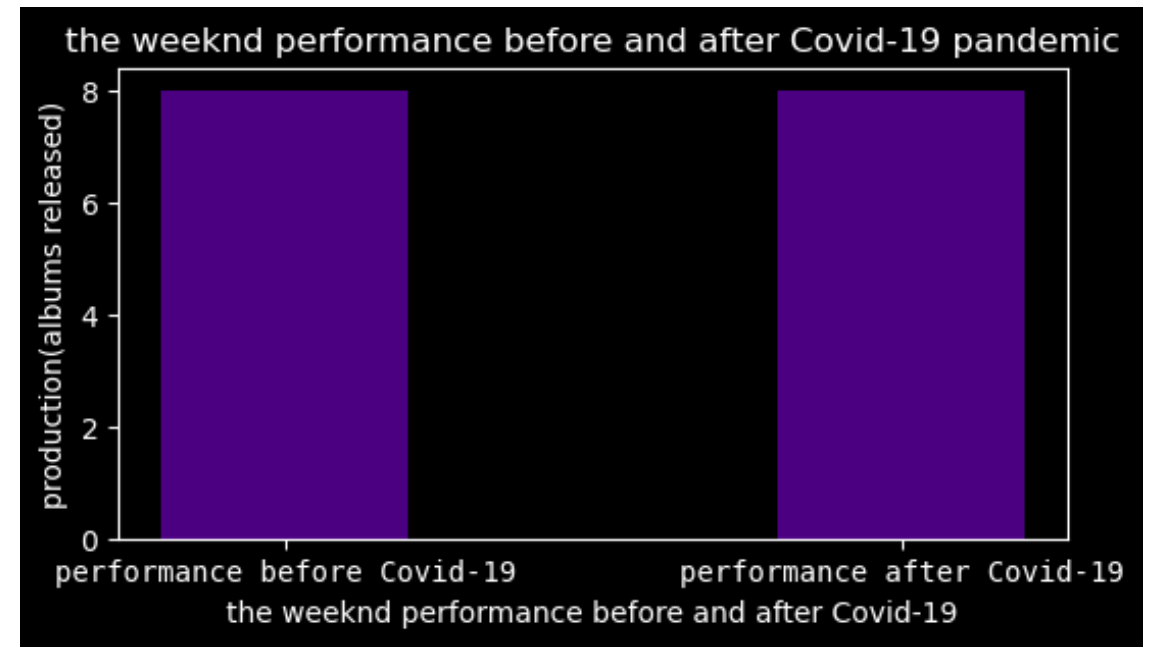
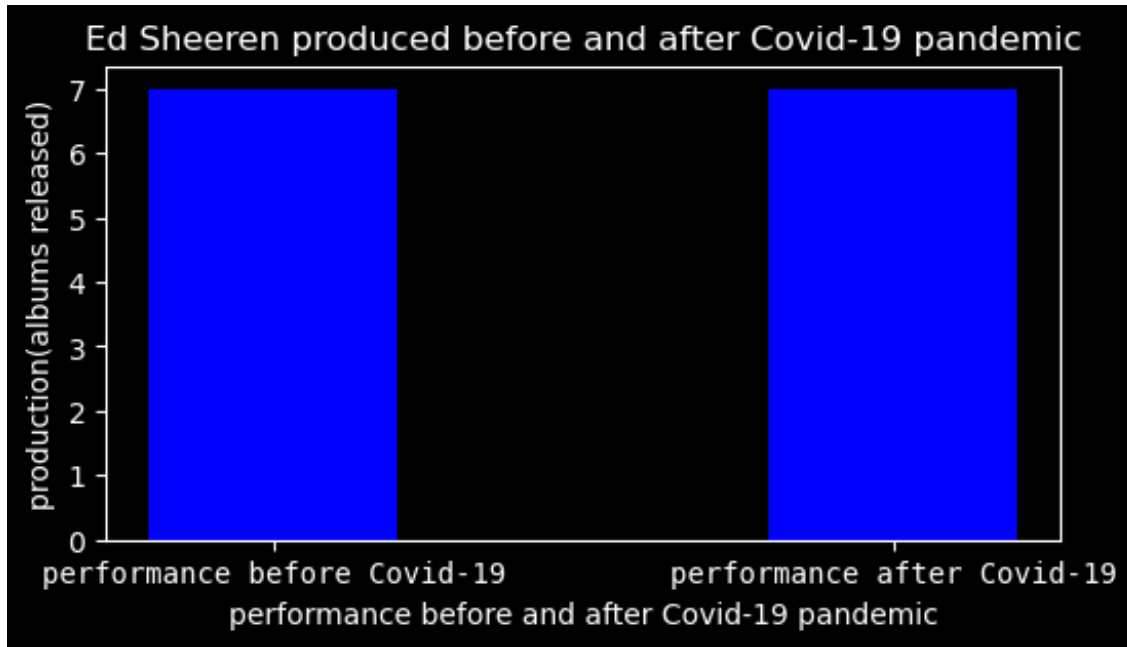
No correlation between danceability and energy (which one might assume would be correlated)

No correlation between tempo and duration either





BONUS ANALYSES — IMPACT OF COVID



BONUS ANALYSES — IMPACT OF COVID

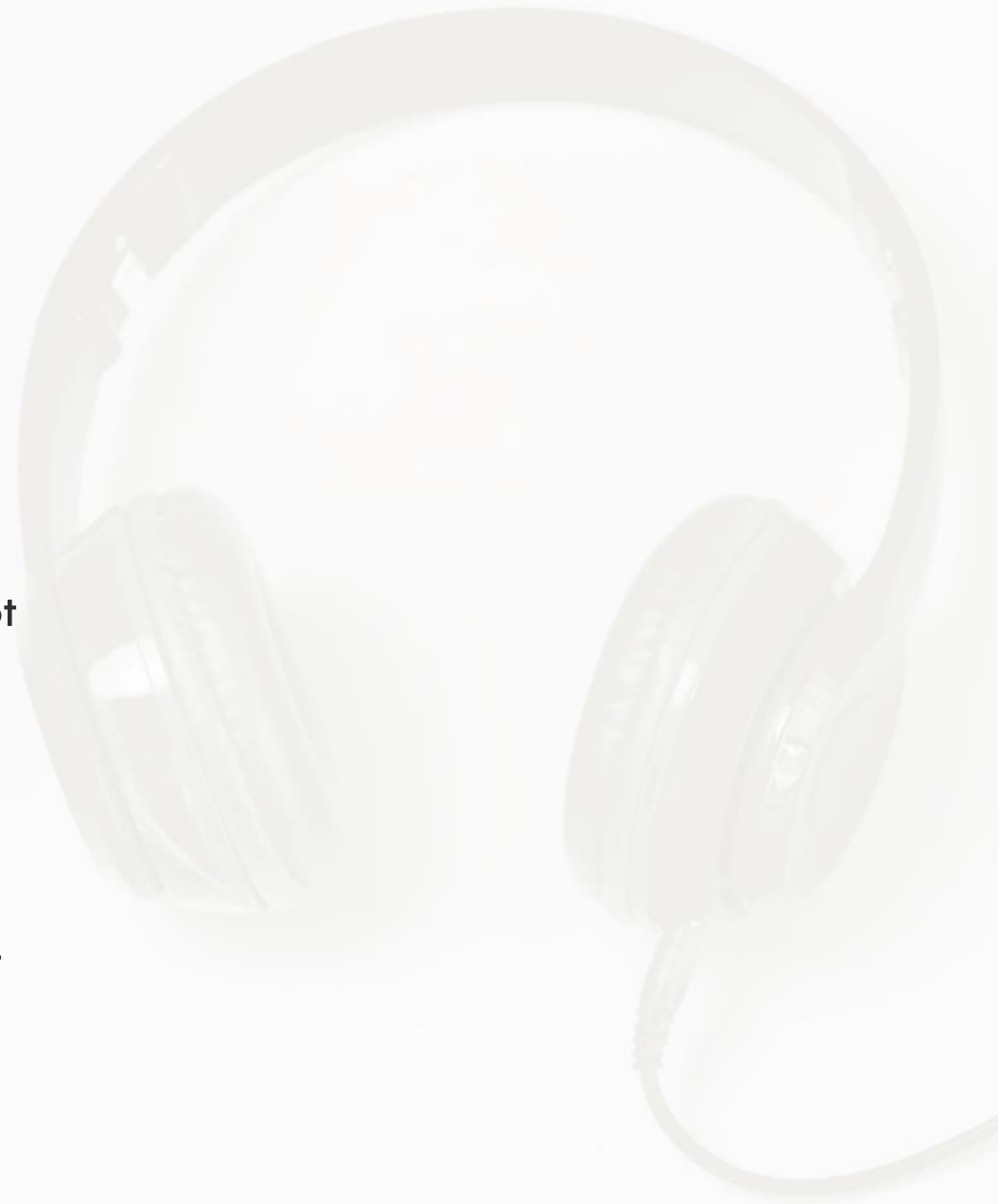
CONCLUSIONS

As we hypothesized, **music habits have changed in the past 6 years:**

- Whilst pop and rap consistently occupy the first two positions at the top of the most listened-to genres, a lot of sub-genres of pop have risen around the period of COVID-19;
- Only 5 artists had a song in the top 100 in every year, indicating people's preferences change on a yearly base;
- Songs are getting shorter in general. Song duration correlates strongly with the number of Tik-Tok users;
- There has been a downward trend for features such as danceability and energy, but the songs people listen to are becoming more positive.

LIMITATIONS

- We only collected data for the most popular songs each year. These songs are likely to naturally share features, limiting our conclusions.
- We only analyzed data for the past 6 years, whereas a lot of these trends might have been occurring for much longer, as some articles suggest.
- We chose to analyze the year a song was popular, not when it was released. Looking at songs' release dates might have shown a different picture altogether.



ANY QUESTIONS?