Spotify

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Agenda

Background & Motivations

Structure of Questions

Data Collection & Data Sources

Findings & Implications

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Background & Motivations

What Makes a Hit Song?

PLAY FOLLOWING •••

Using Spotify's API, we investigated consumer music listening habits to determine which factors could help an artist create a successful song.

The key factors we analyzed:
Danceability
Region of Audience
Song Duration

Questions

QUESTION 1

Which audio features are significant predictors of a song's danceability score?

QUESTION 2

Do TOP 200 songs have different streaming rates between Canada and the USA?
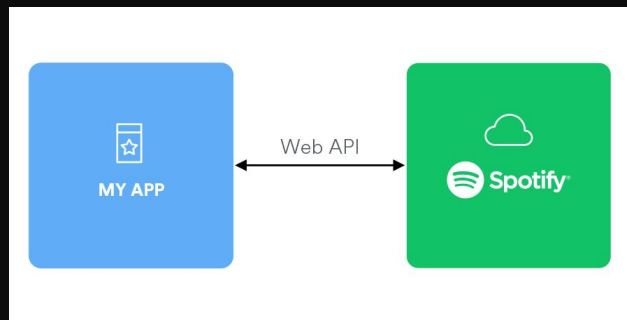
QUESTION 3

Does the duration of a song determine how popular it is?

Does a particular genre do better in terms of danceability than other genres?

Are these songs in the TOP 200 ranked any differently? What is the genre makeup?

What trends can be noticed about how average duration of top songs change throughout the years?

Data Collection & Data Sources

Questions 1 & 3
API

Data Collection:
- Top tracks endpoint
- Audio features endpoint
- Artists endpoint

Question 2
CSV File

Data Collection:
- Filtering date for analysis
- Narrowing down list of countries

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Which audio features are significant predictors of a song's danceability score?

Valence
49%

Acousticness
19%

Key
C & C#

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Does a particular genre do better in terms of danceability than other genres?

75% K-pop

70% Latin

67% Rap

Danceability Ratings Across Different Genres

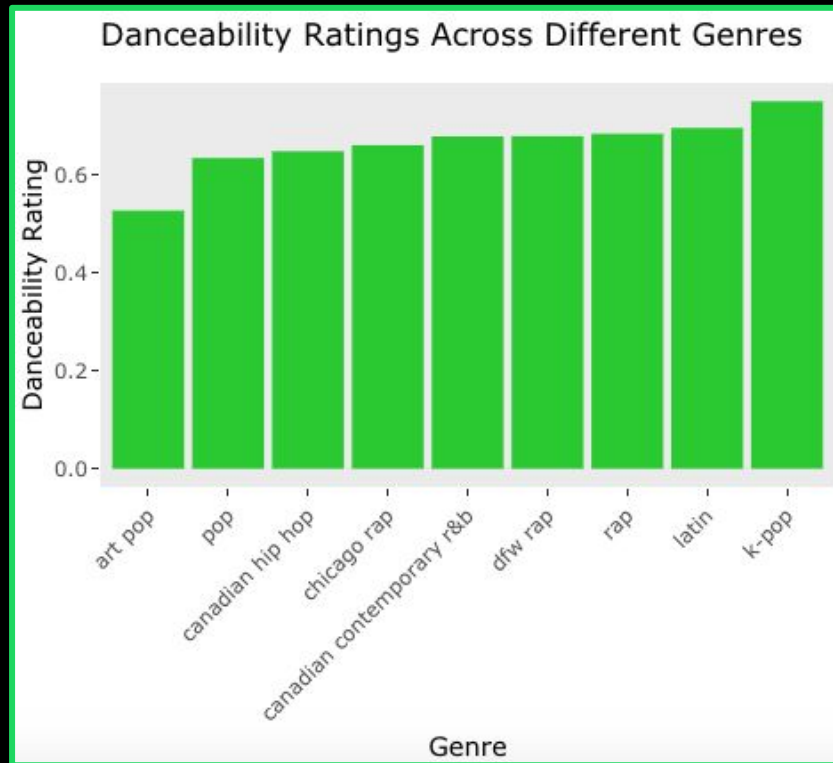## Do Top 200 songs have different streaming rates between Canada and the USA?

By analysing the Top 200 songs with a hypothesis test, It was found that Top 200 songs for Canada and the USA **DO** have **DIFFERENT** streaming rates.

Fun Fact: It was found that on average, about 75% of songs in the Top 200 for both countries were the same.

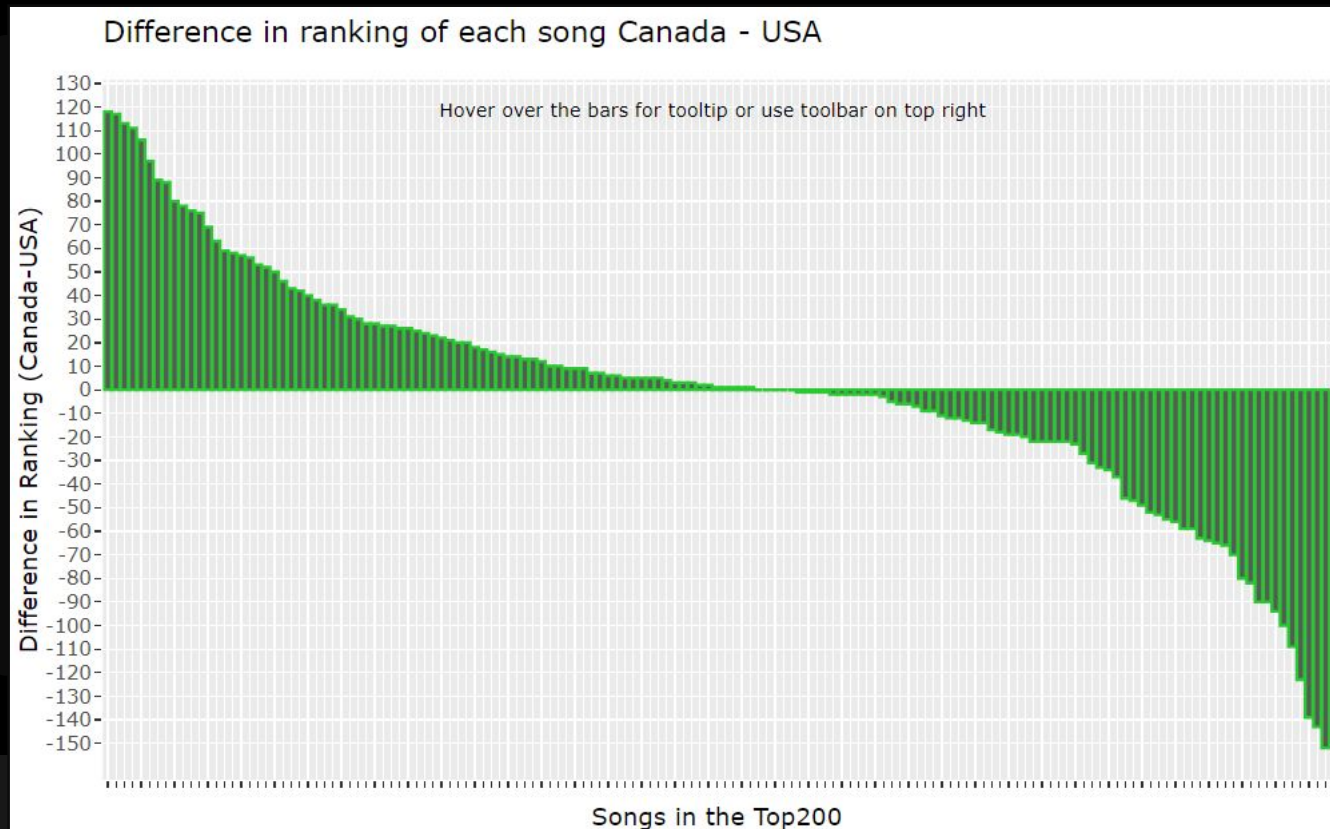0:00   3:55

What about the ranking of the top songs?

By performing another hypothesis test regarding ranking of the Top 200 songs common to both countries, it was found that the ranking of songs in the Top 200 for Canada and the USA **ARE** the same.

To be confident in our conclusions, we also verified that the results of the tests would convey the same results by running the tests on different days the chart was published.
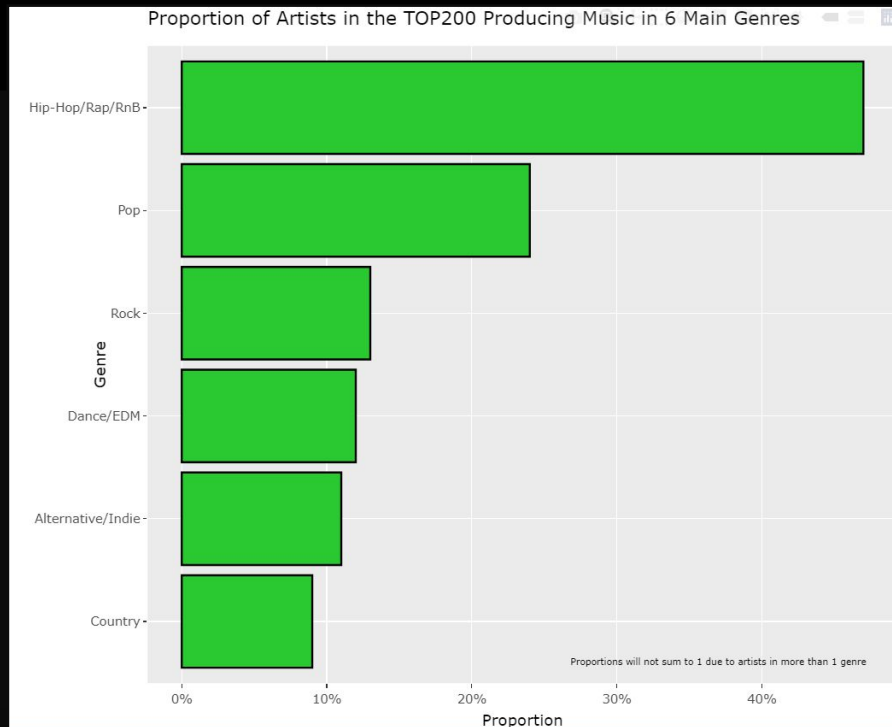
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Question 2 Follow up

A visualization of the differences in ranking

Difference in ranking of each song Canada - USA

Hover over the bars for tooltip or use toolbar on top right

Difference in Ranking (Canada-USA)

Songs in the Top200

While some songs were ranked higher and some were ranked lower, overall the differences cancelled each other out.

A pattern was that artists producing Hip-Hop and rap were ranked higher in the USA, and primarily pop artists were were ranked higher in Canada.

Question 2 Follow up

The genre breakdown of the artists whose songs were in Canada's Top 200

Proportion of Artists in the TOP200 Producing Music in 6 Main Genres

Type.Of.Music	Proportions
Hip-Hop/Rap/RnB	0.47
Dance/EDM	0.12
Pop	0.24
Country	0.09
Rock	0.13
Alternative/Indie	0.11

Because Artists may fall into more than one genre, proportions will not add up to 1.
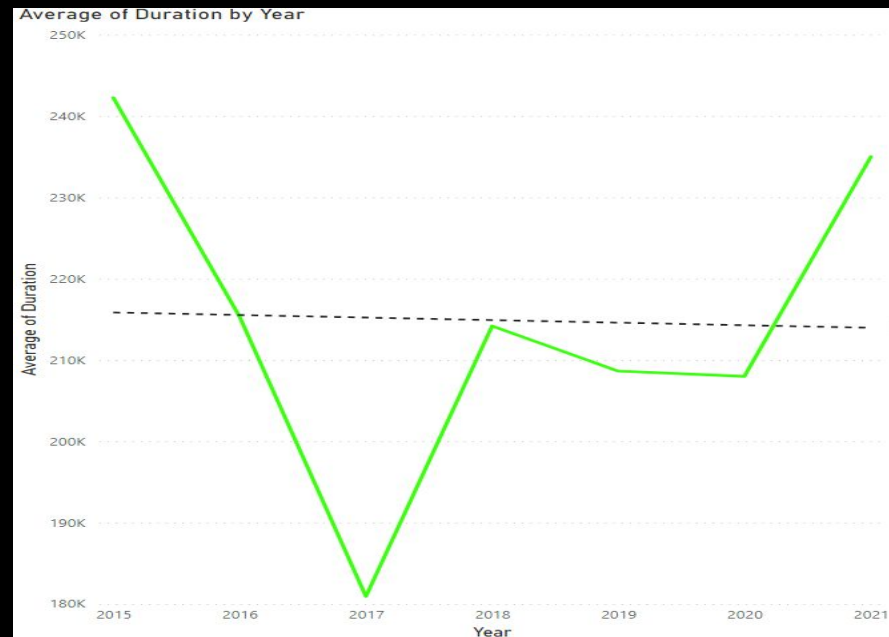
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Does the duration of a TOP 100 song determine how popular it is?

- We have concluded that the duration of a song impacts its popularity.

- Additionally, we found that there is a positive correlation between duration and popularity.

Duration is in measured in milliseconds

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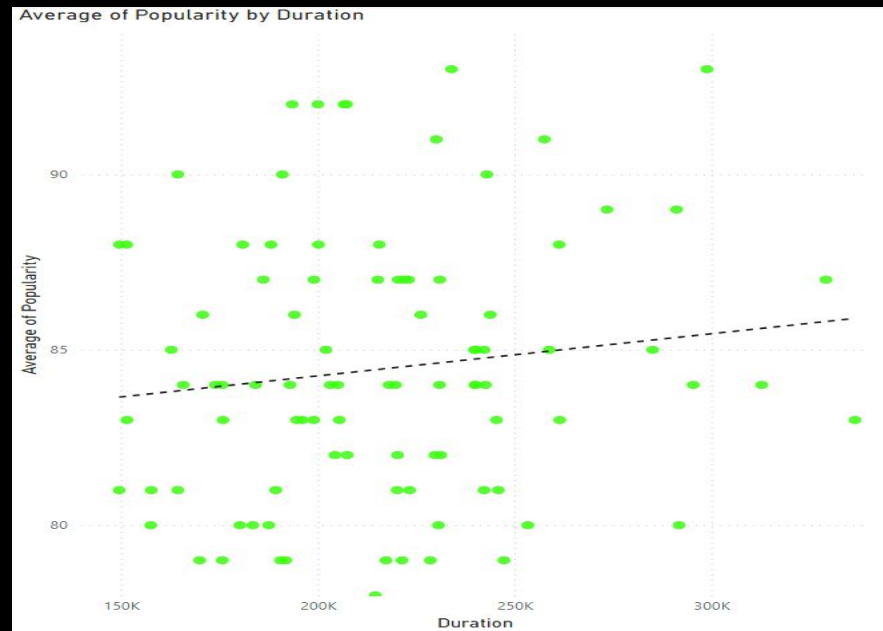
What trends can be noticed about how average duration of TOP 100 songs change throughout the years?

- The average duration of a song throughout the years is between the 3-4 minute mark.

- Over the last couple years, the average duration of a TOP 100 song is slowly decreasing.

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Average of Duration by Year

Duration is in measured in milliseconds

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Search

Implications

People Love to Dance

Tips for Artists:

Valence
Be happy, or be sad. Your choice.

Key
C or C# is most common.

Acousticness
Stick to high-beat, electronic instrumentals.

SEE MORE

Implications

Regional Listening Habits

Tips for Artists:

Streams
Canadians listen to music more.

Ranking
Music is ranked the same in both.

Genre
Both countries love the same genres similarly.

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Implications

Don't Make it Too Long

Tips for Artists:

Duration
Keep it in the 3 to 4 minute mark.

Getting Shorter
Popular songs are leaning towards shorter durations.

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Thank you for listening!