

Kendrick Lamar vs Drake: A Data-Driven Comparison

Feiyang Xue & Zixi Zhang

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Introduction

This report compares the musical careers of two of the biggest names in hip-hop: Kendrick Lamar and Drake. Over the years, these artists have competed for dominance in the genre, each with a distinct style and approach to music. We analyze their popularity, musical features (energy, danceability), and release trends to understand who leads in different aspects of their craft.

Popularity Comparison

By analyzing the top 10 tracks for both artists, we observe that Drake's tracks tend to be more popular on average compared to Kendrick Lamar's.

```
library(spotifyr)
library(dplyr)
```

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

`filter`, `lag`

The following objects are masked from 'package:base':

`intersect`, `setdiff`, `setequal`, `union`

```
library(purrr)
library(tibble)
library(ggplot2)
library(lubridate)
```

Attaching package: 'lubridate'

The following objects are masked from 'package:base':

date, intersect, setdiff, union

```
# Set up the Spotify API credentials
Sys.setenv(SPOTIFY_CLIENT_ID = '521b056c02914891b76f828c31982313')
Sys.setenv(SPOTIFY_CLIENT_SECRET = '817ceb170a6340b3880b9dfc6ed2a8d0')
access_token <- get_spotify_access_token()

# Function to fetch artist data
get_artist_data <- function(artist_name) {
  artist <- search_spotify(artist_name, type = 'artist') %>%
    filter(name == artist_name) %>%
    slice(1)

  top_tracks <- get_artist_top_tracks(artist$id[1], market = "US")

  # Extract relevant data
  track_data <- top_tracks %>%
    mutate(
      track_id = id,    # Use track ID for joining
      track_name = name,
      popularity = popularity,
      duration_minutes = duration_ms / 60000,
      release_date = album.release_date,
      album_name = album.name
    ) %>%
    select(track_id, track_name, popularity, duration_minutes, release_date, album_name)

  # Get audio features for tracks
  track_features <- map_df(top_tracks$id, get_track_audio_features)

  # Combine top track data with track features using track_id for joining
```

```

    combined_data <- left_join(track_data, track_features, by = c("track_id" = "id"))

    return(combined_data)
}

# Fetch data for both Kendrick Lamar and Drake
kendrick_data <- get_artist_data("Kendrick Lamar")
drake_data <- get_artist_data("Drake")

# 2.Track Feature Comparison: Energy and Danceability
# Plot comparison of track features
library(ggplot2)

# Combine both artists' data into one dataframe for comparison
combined_data <- bind_rows(
  kendrick_data %>% mutate(artist = "Kendrick Lamar"),
  drake_data %>% mutate(artist = "Drake")
)

```

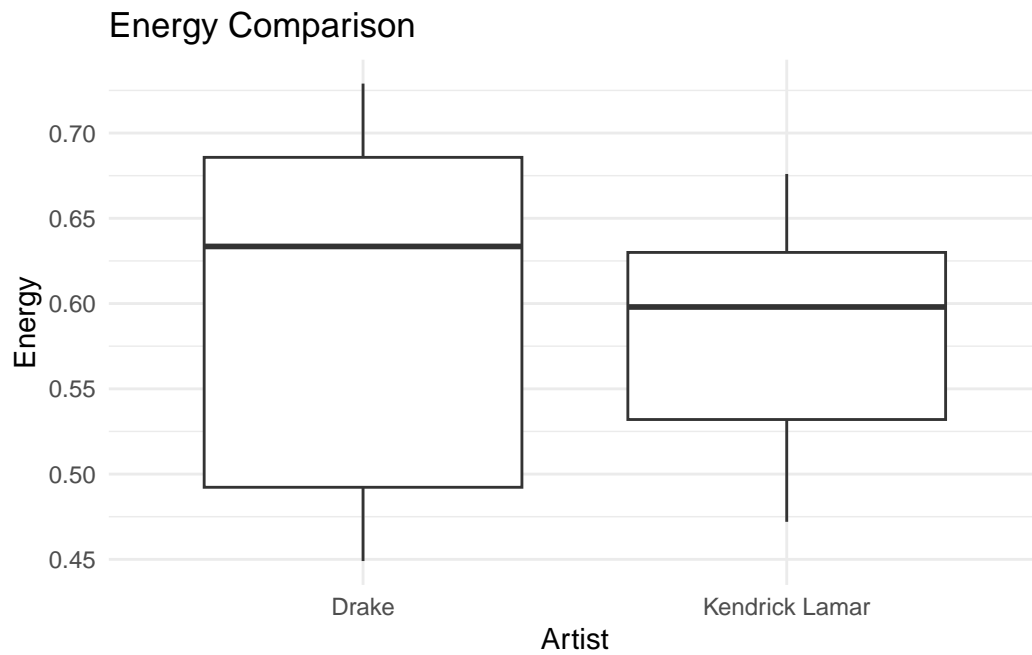
##Track Features: Energy and Danceability

We compare the energy and danceability of tracks. On average, Drake's tracks are more danceable, while Kendrick Lamar's tracks have a higher energy level.

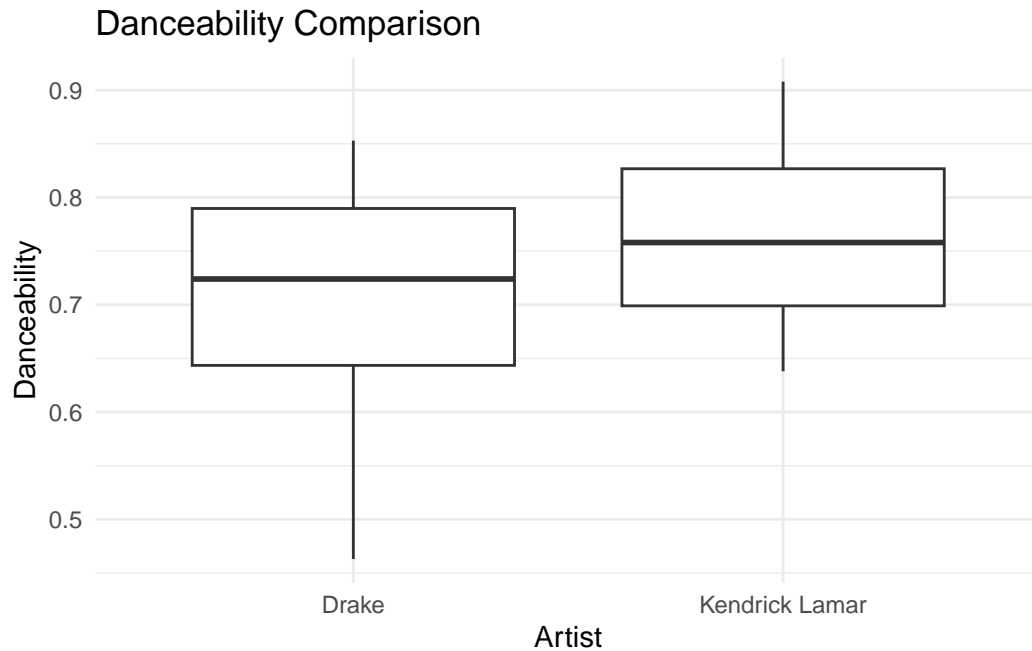
```

# Energy and Danceability Comparison plots
ggplot(combined_data, aes(x = artist, y = energy)) +
  geom_boxplot() +
  labs(title = "Energy Comparison", y = "Energy", x = "Artist") +
  theme_minimal()

```



```
ggplot(combined_data, aes(x = artist, y = danceability)) +  
  geom_boxplot() +  
  labs(title = "Danceability Comparison", y = "Danceability", x = "Artist") +  
  theme_minimal()
```



##Release Trends In terms of release consistency, both artists have had frequent releases over the years. The release density chart below shows who has been more active in specific time periods.

```
# 3. Release Trends
# Plot release trends over time
combined_data$release_date <- as.Date(combined_data$release_date)

ggplot(combined_data, aes(x = release_date, color = artist)) +
  geom_density() +
  labs(title = "Release Trends Over Time: Kendrick Lamar vs Drake", x = "Release Date", y = "Density")
theme_minimal()
```

Warning: Removed 1 row containing non-finite outside the scale range (``stat_density()``).

Release Trends Over Time: Kendrick Lamar vs Drake

