

# **WHAT MAKES A SONG DANCEABLE?**

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# INTRODUCTION & DATA SET

```
{r}  
spotify <- read.csv("spotify.csv")  
head(spotify)  
  
top_songs <- spotify |>  
  filter(popularity >= 75) |>  
  filter(speechiness > 0, danceability > 0) |>  
  distinct(track_name, .keep_all = TRUE)  
head(top_songs)
```

## Top Songs Data Frame

1451 observations, 20 Variables (track id, artists, album name, track name, popularity, duration, explicit, danceability, energy, key, loudness, mode, speechiness, acousticness, instrumentalness, liveness, valence, tempo, time signature, track genre)

\*filtered by popularity due to large dataset



# DANCEABILITY &

Energy

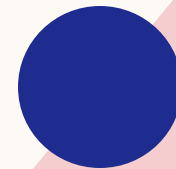
Speechiness

Genre

Tempo

Popularity

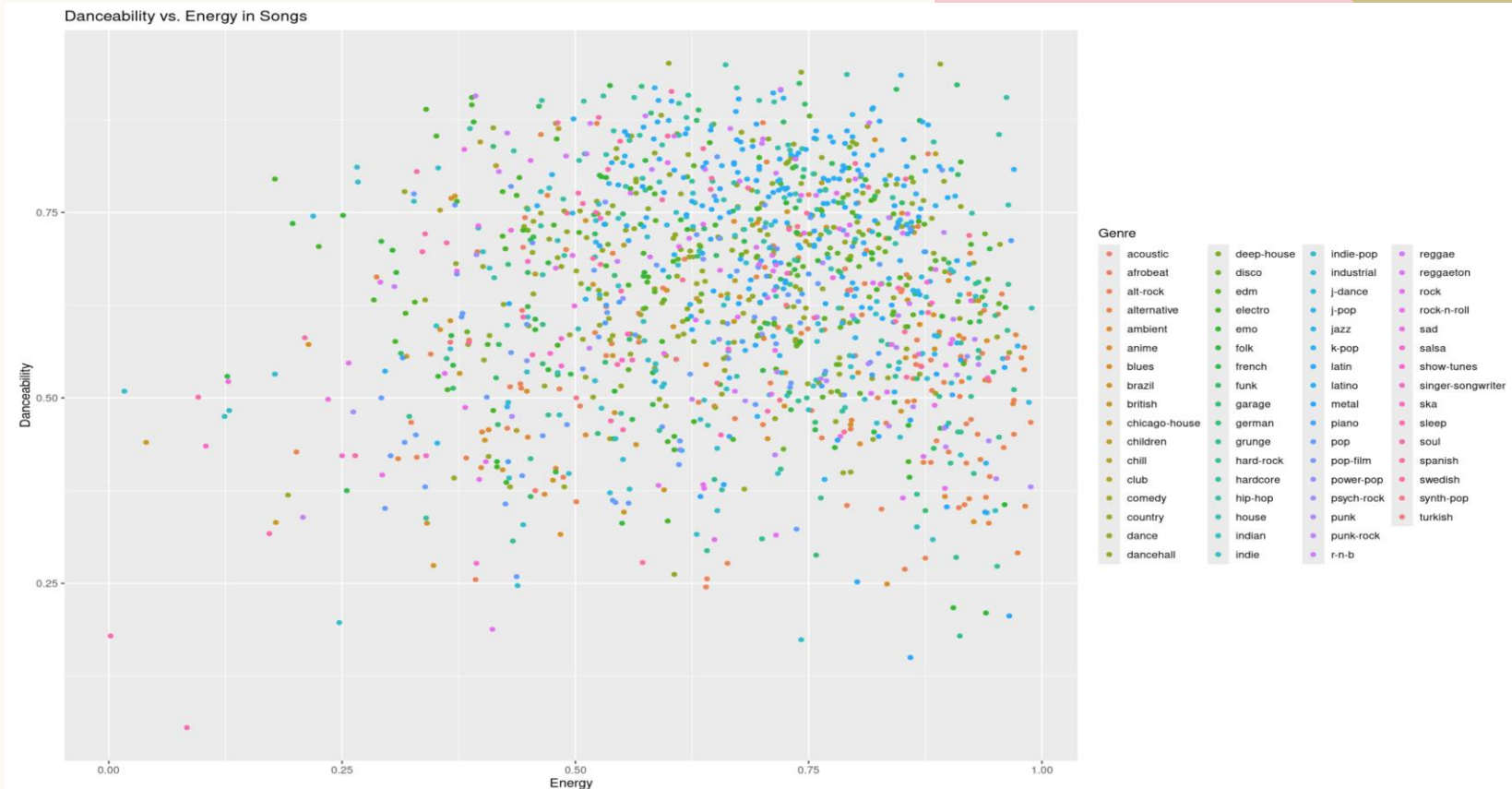
3



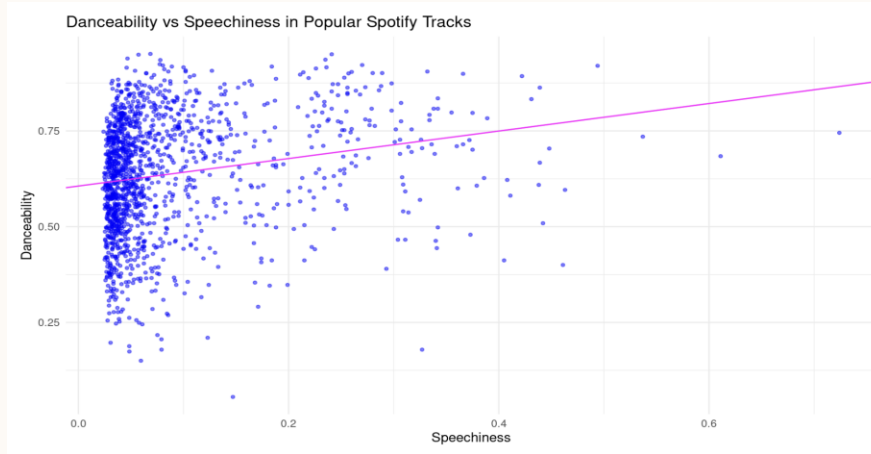
# ENERGY VS. DANCEABILITY

The energy variable is measured on a scale of 0.0 - 1.0, with 1.0 being the highest energy level. Songs with high energy feel fast and loud.

This graph shows that danceability does not have a strong correlation with energy because the points are all over the graph.



# SPEECHINESS VS DANCEABILITY



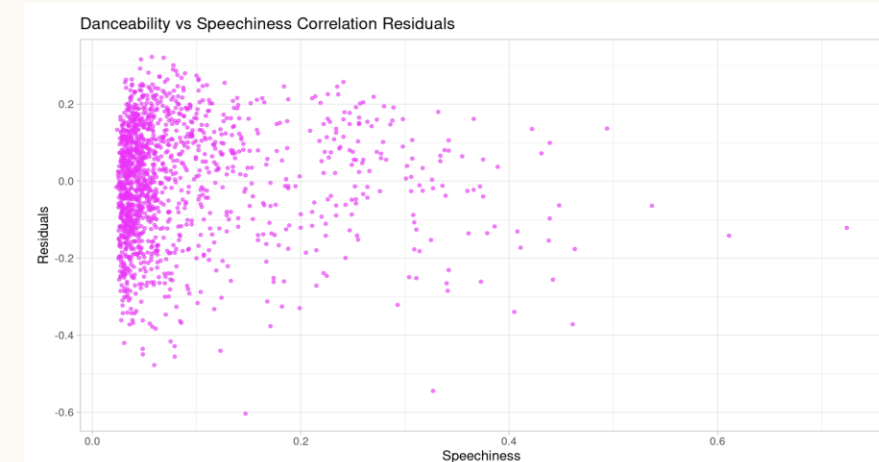
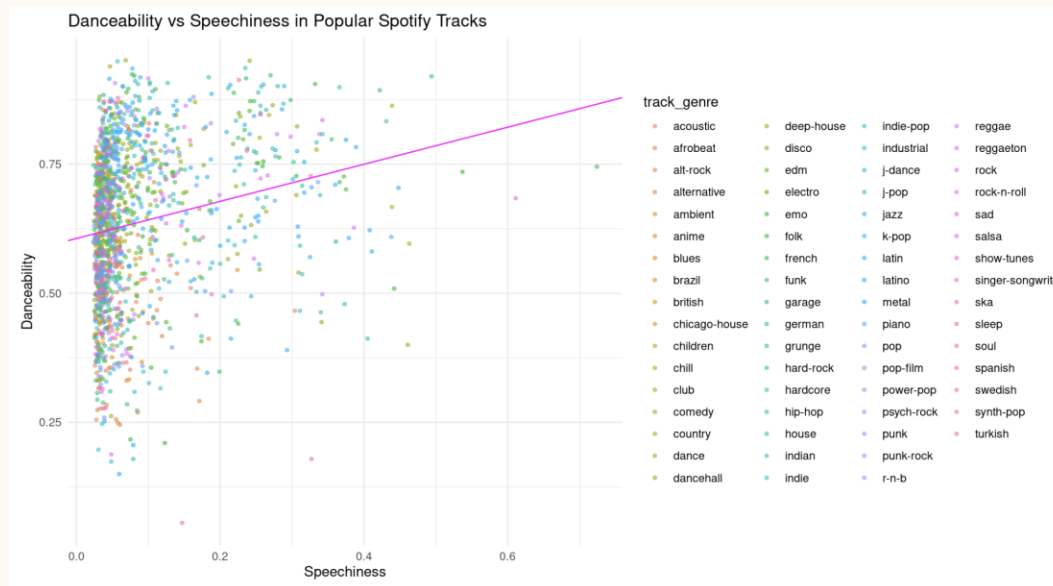
**Speechiness:** How much spoken word is in a track on a scale from 0–1

Correlation: 0.1973863 (Pearson Formula)

Weak, positive relationship which indicates that as speechiness increases, danceability increases slightly (but the connection isn't strong)

## Residuals Analysis

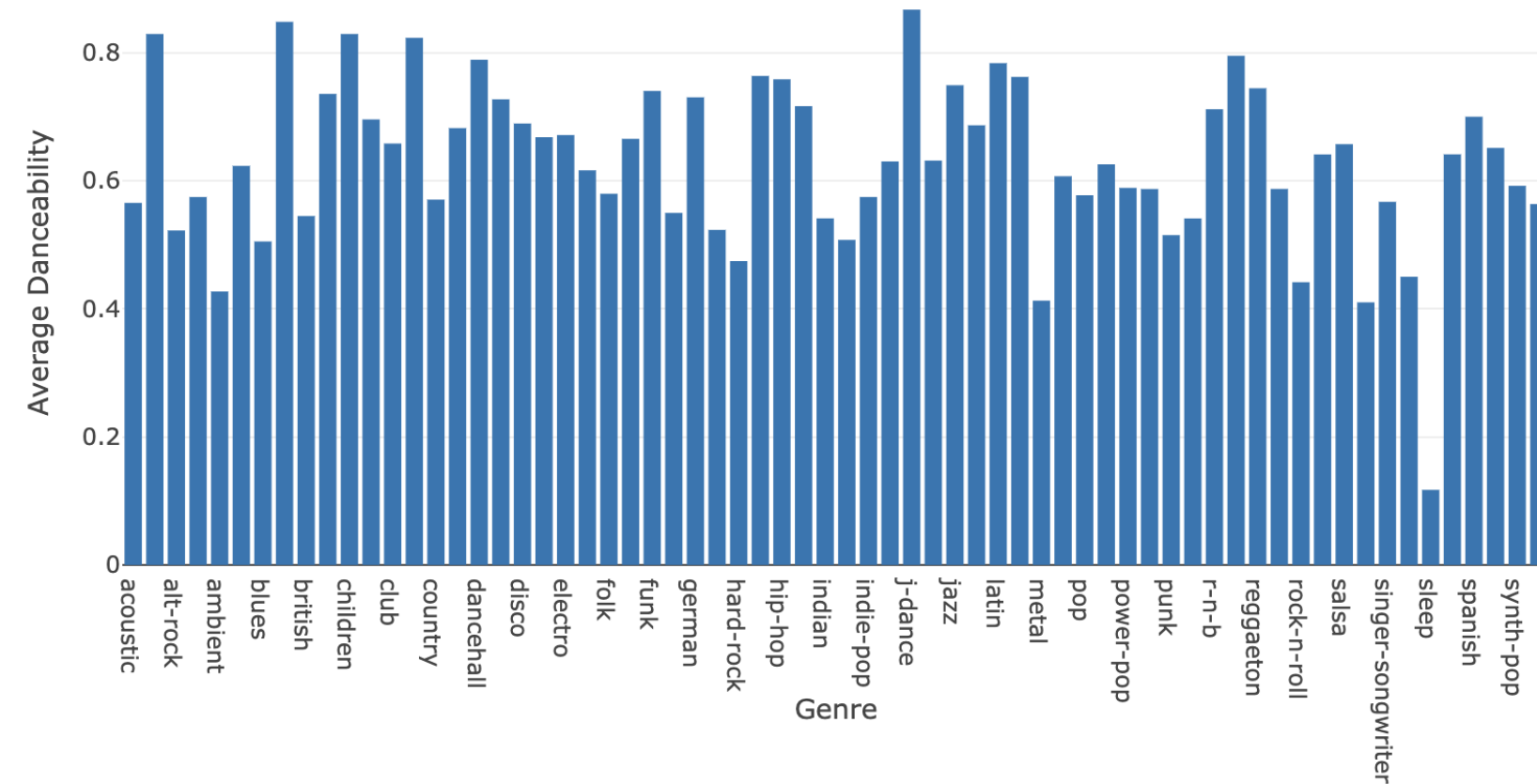
- Appear fairly scattered around zero, so a linear model is appropriate
- No clear pattern
- Some variance concerns, some more spread out than others



# GENRE VS. DANCEABILITY

6

Danceability of each Genre



Does genre influence danceability?

Danceability is measured on a 0-1 scale, 0 being not danceable, 1 being the most danceable

Most danceable genres:

J-Dance: 0.867

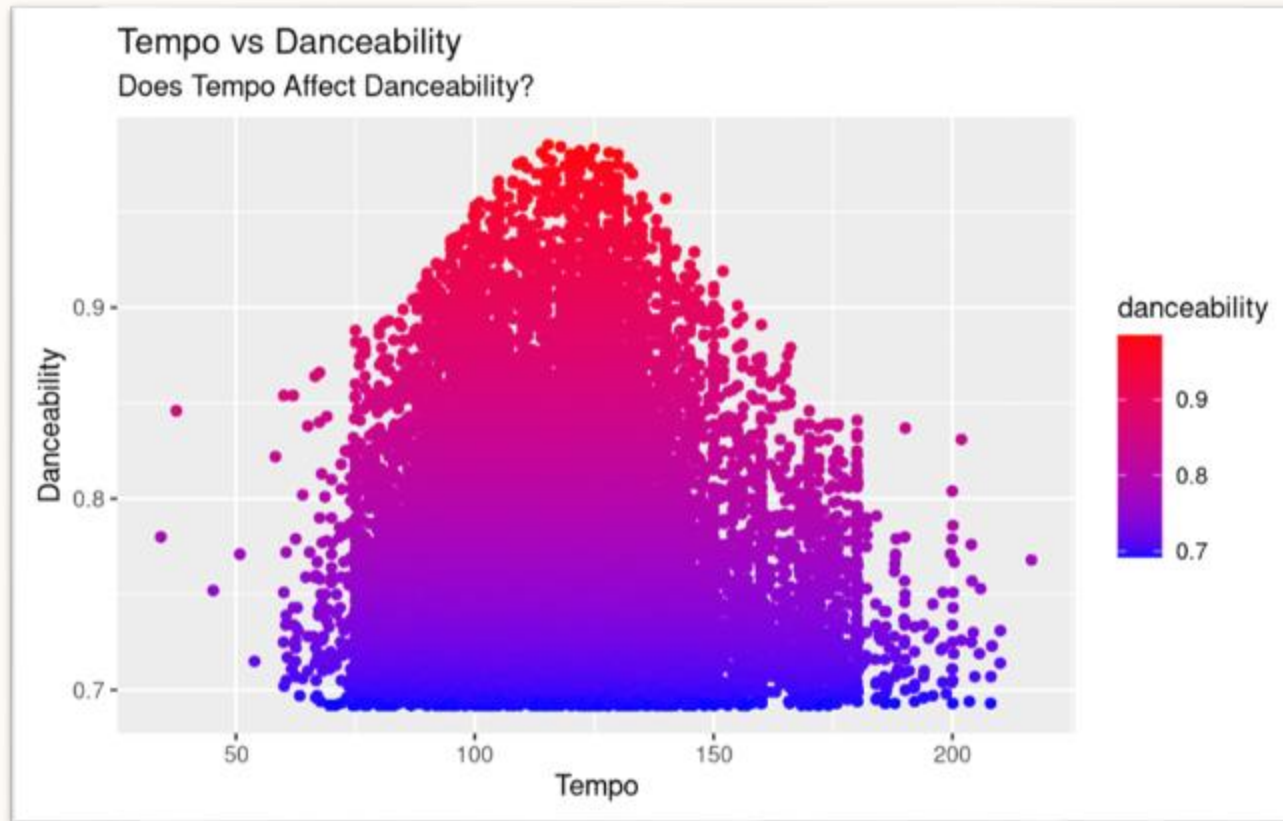
Brazil: 0.848

Afrobeat & children: 0.829

Comedy: 0.823

Songs in genres that are known for being more upbeat have higher danceability

# TEMPO VS. DANCEABILITY

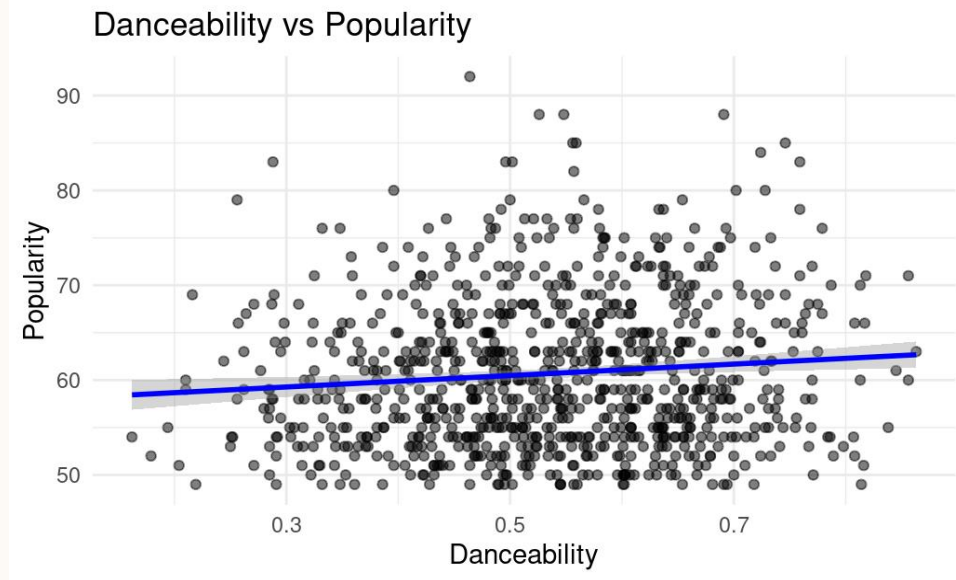


- Tempo: What is it?
  - Beats per minute (BPM) or speed/pace of a song. It is measured from the number of beats in a minute.
  - Thus, the higher BPM value, the faster the tempo of the song.

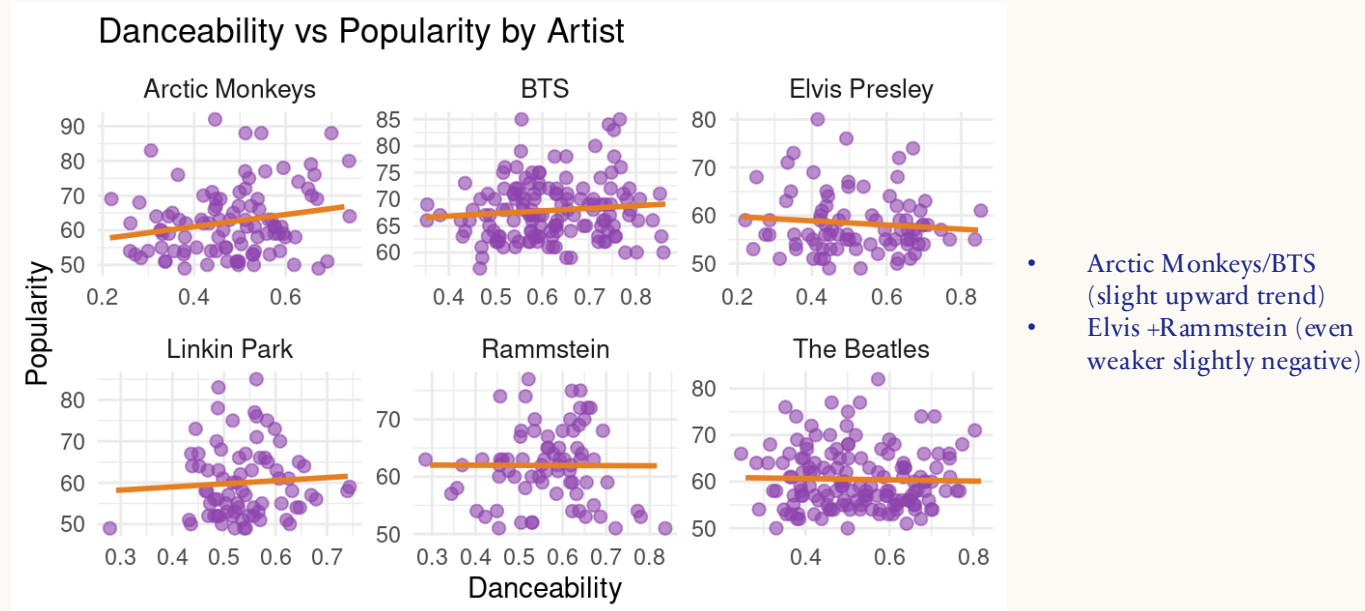
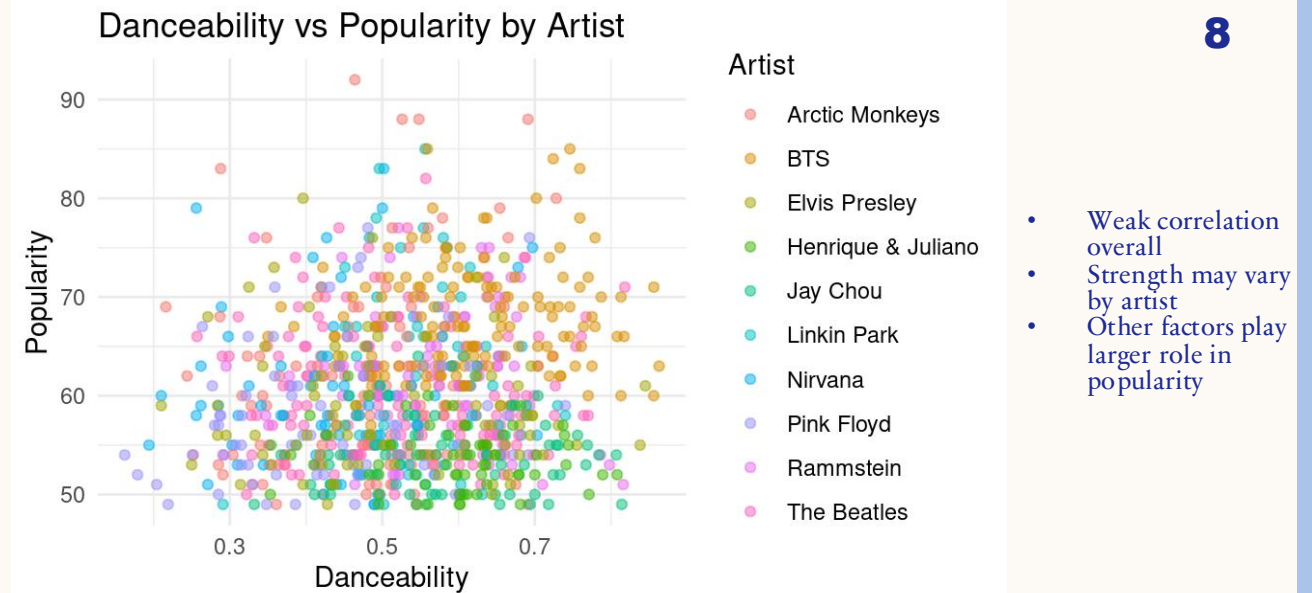


# POPULARITY VS. DANCEABILITY

- Does the Danceability of a song have a relationship with the popularity of a song?



- No strong overall correlation
- Trend line suggest that songs that are more danceable may have a tendency to be more popular but still wide scatter





# CONCLUSION

- Energy: not a strong correlation
- Speechiness: not a strong enough pattern to indicate a true relationship
- Genre: Certain genres have songs with higher danceability
- Tempo: strongest pattern
- Popularity: no strong correlation/other factors contribute





**THANK  
YOU**

- Block Blasters