



An Exploratory Analysis of Factors Influencing Song Popularity

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Why Do Some Songs Become Popular, and Why Does It Matter?

- Music that appeals to a wide variety of listeners
- Understanding popularity is valuable for artists and the music industry





Now playing



**How does danceability,
acousticness, and genre relate
to song popularity on Spotify?**



Data Overview

32,833 songs from Spotify playlists (TidyTuesday dataset)

Each row = song – playlist pairing

Focus variables:

- Popularity (0–100)
- Danceability (0–1)
- Acousticness (0–1)
- Genre (EDM, Latin, Pop, R&B, Rap, and Rock)

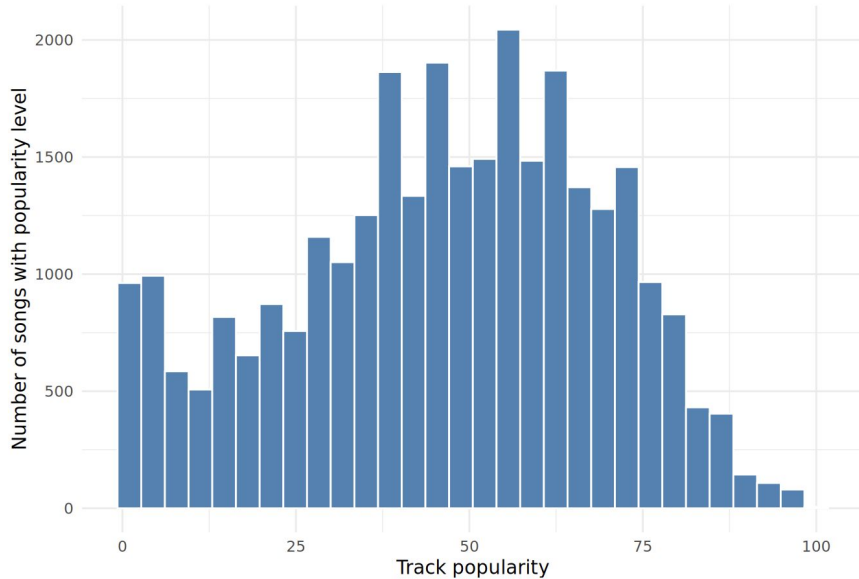
We removed songs with popularity = 0 to reduce skew.



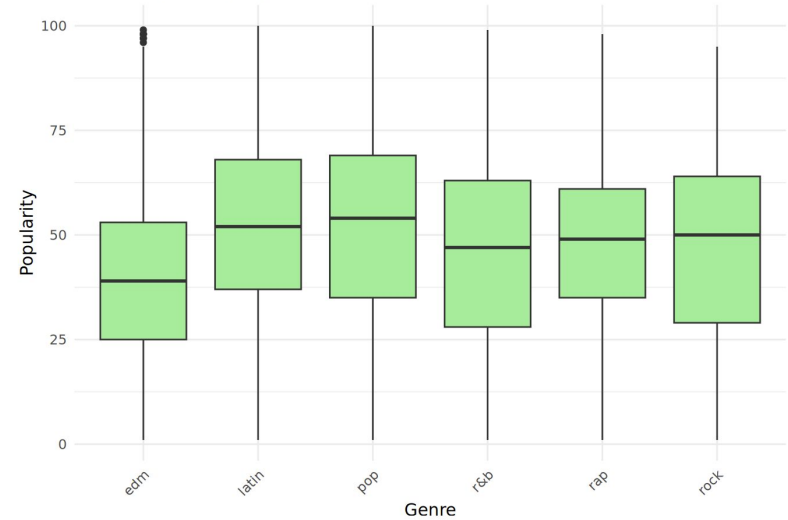


Popularity Varies by Genre

Popularity of all songs on Spotify



Track Popularity by Genre



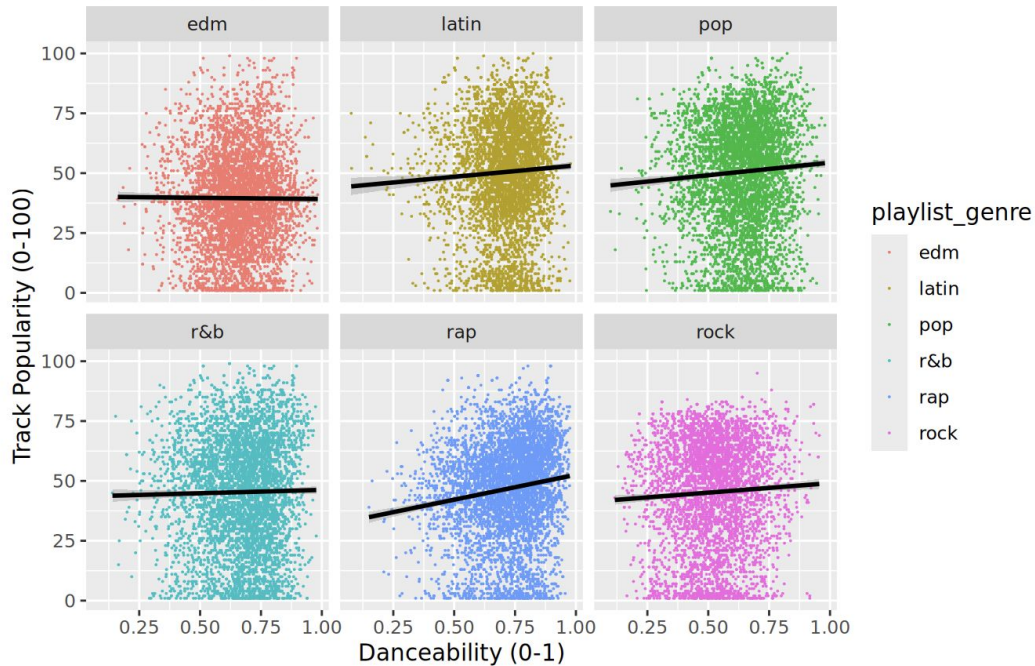
Most songs have mid-range popularity, and pop and Latin genres tend to have higher median popularity.





Danceability and Popularity

Track Popularity and Danceability
All Songs on Spotify



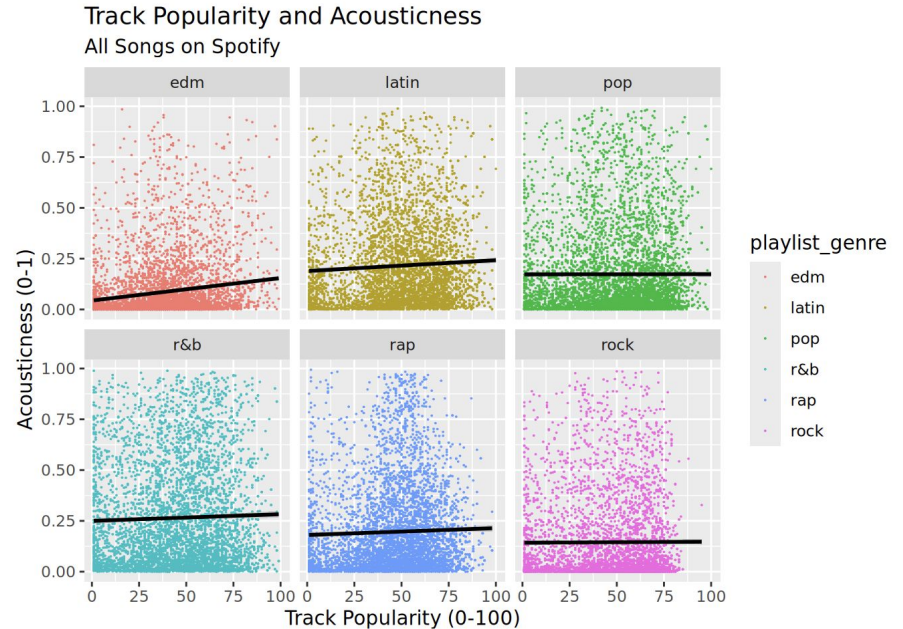
- More danceable songs tend to be **slightly** more popular, but the relationship is **weak**.





Acousticness and Popularity

- Acousticness shows a very weak relationship with popularity, with only slight trends.



Key Findings

- Danceability, acousticness, and genre are statistically significant
- Pop and Latin genres associated with higher popularity
- Model explains very little variation ($R^2 \approx 0.03$)

Conclusion: Audio features and genre have limited predictive power. Popularity depends on many other factors.

