Final Project: Taylor Swift Spotify Data Analysis

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Motivation

- Taylor Swift Fans!

- Taylor Swift recently released new music, and we were curious about how well the music was doing in terms of its popularity.

- Taylor Swift has also been in the music industry for a long time so we wanted to see how her music has increased in popularity over the years.

Research Questions

- What is the relationship between the popularity of each song and the length of it?

- What is the relationship between the tempo versus the energy of a song?

- Which of Taylor's albums was the most popular?

- What year her songs gain the most popularity?

Dataset

- Taylor Swift's Spotify Data (spotify_taylorswift.cvs) from Kaggle

- Categories: name of song, name of album, artists involved, release date, length of song, popularity, energy and intensity of a song, tempo, acousticness, instrumentalness, loudness, speechiness, danceability, and liveliness.

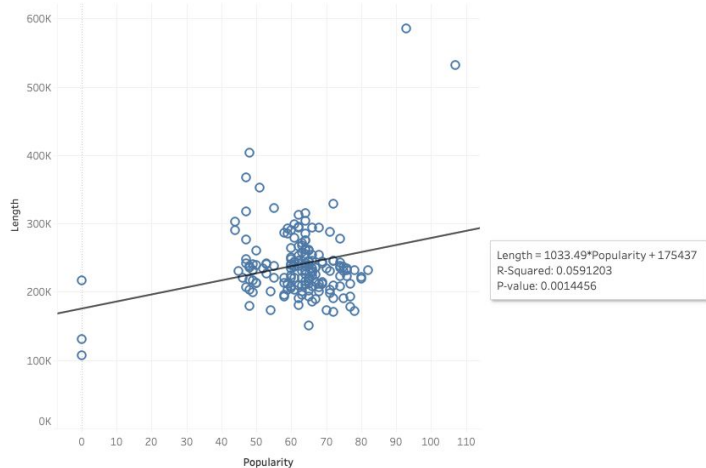- The dataset contains 9 albums with a total of 171 songs.

Research Method

- Using Tableau.

- Plot the data on scatter plots and use the r-value of each scatter plot to figure out if there is a correlation between the two categories of data (popularity vs. length, tempo vs. energy). The closer the r-value is to 1 or -1, the stronger a correlation there is.

- We also plan on using bar graphs to track the year Taylor Swift songs were most popular and which of her albums was the most popular.
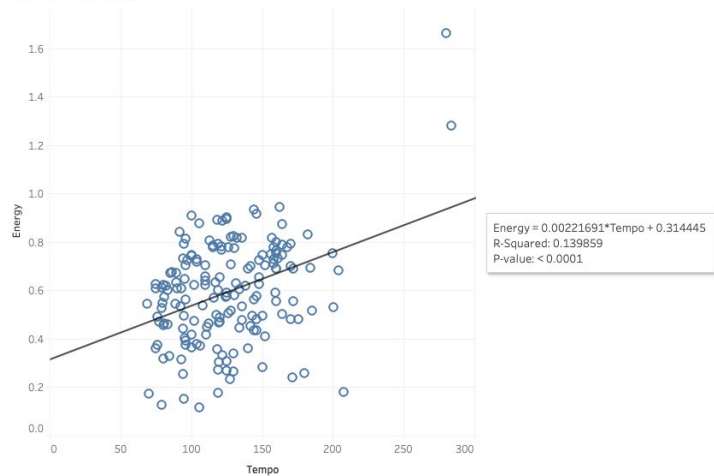
Results (Q. 1&2)

Popularity VS. Length of Song

This data has an r-value of 0.243.
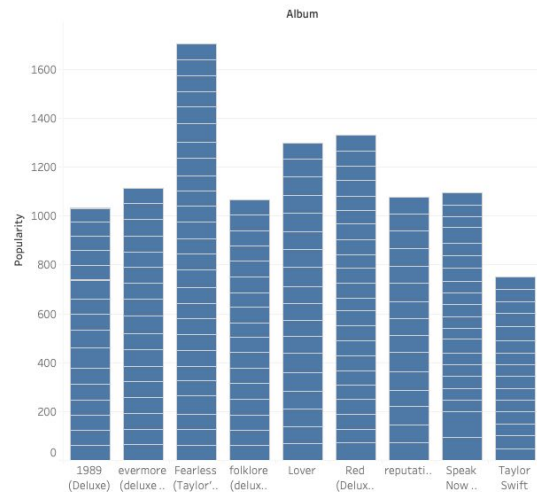
Tempo VS. Energy

This data has an r-value of 0.374.
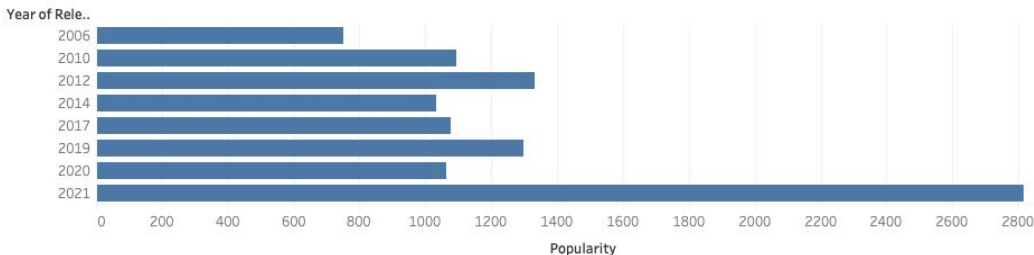
Results (Q. 3&4)

Album VS. Popularity

Album VS Popularity

The album that was most popular was Taylor's "Fearless". The least popular was her "Taylor Swift" album.

Year of Release VS. Popularity

Year of Release VS Popularity

The year that Taylor Swift's songs gained the most popularity was 2021. The least popular time was 2006.

Implications and Conclusion (Q. 1&2)

Popularity VS. Length of Song

- Positive association

- No correlation (r-value of ~0.2)

- songs were clustered around the middle of the graph/no pattern

- Makes sense because people do not usually pay attention to a length of a song when determining their enjoyment of it

Tempo VS. Energy

- Positive association

- r-value: 0.4

- Suggests that there is a relationship between the high rhythms of music and the high vibes it gives off

  - Makes sense because the faster the tempo of a song is, the more lively it sounds

Implications and Conclusion (Q. 3&4)

Album VS. Popularity

- Most popular album: Fearless (Taylor's Version).

    - received much media attention since it included re recordings of her most popular songs throughout her career

- Least popular album: Taylor Swift

    - Was her very first album from the beginning of her artistic career

Year of Release VS. Popularity

- Most popular year: 2021

    - Year when Swift released her most popular album, Fearless (Taylor's Version)

- Least popular year: 2006

    - Year when she first started releasing music

Possible Error

- Some of the data columns are subjective
    - Ex: energy, liveliness, and danceability of a song

Thank you for listening :)