

# Analysis of Coldplay Band Albums\*

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## 1 Introduction

Coldplay is a alternative rock band with many popular songs made available on various streaming platforms. One of the most popular streaming platform is Spotify Spotify (2024).

In this paper, we make use of Spotify’s developer API Spotify Developer API (2024) to get access to various parameters part of a song for the artist between the year 2000 to 2024. In this paper, we present some graphs to highlight some of our findings and discuss about them from the artist Coldplay. The dataset was made available using Spotify Developer API. Parts of the code were written with the help of R Core Team (2023) and its supported packages like knitr Xie (2014), ggplot2 graphing package Wickham (2016) and tidyverse Wickham et al. (2019). Data cleaning steps were done using the janitor Firke (2023) package.

Table 1 shows a sample of the dataset used.

## 2 Data & Results

### 2.1 Energy of song and it’s duration

Figure 1 shows the relationship between the duration of a song to its energy. The energy of a song corresponds to its combined intensity and it’s vigor (Club (2024)). As we can see, many songs have high energy values between the range 3 to 5 minutes. The band Coldplay (Coldplay Band (2024)) is an alternative rock style band and the findings make sense as these songs have a strong impact on our relative mood and the energy we experience. We also notice that as the duration of the song decreases, many albums/songs have relatively low energy levels.

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\*Code and data are available at: [Code](#).

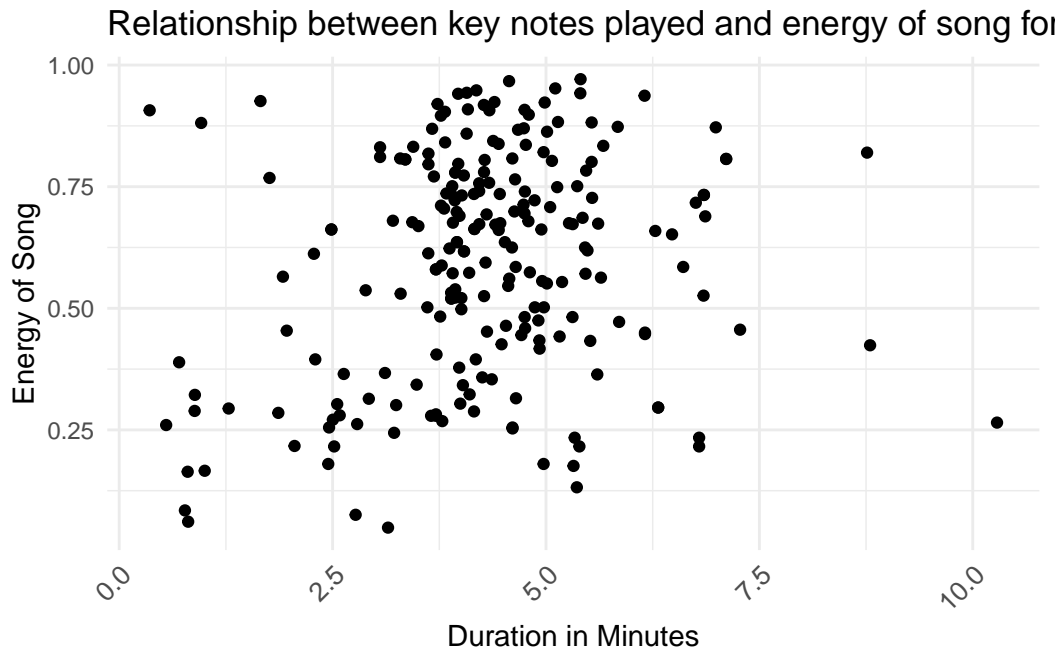


Figure 1: Relationship between energy of song and its duration in minutes

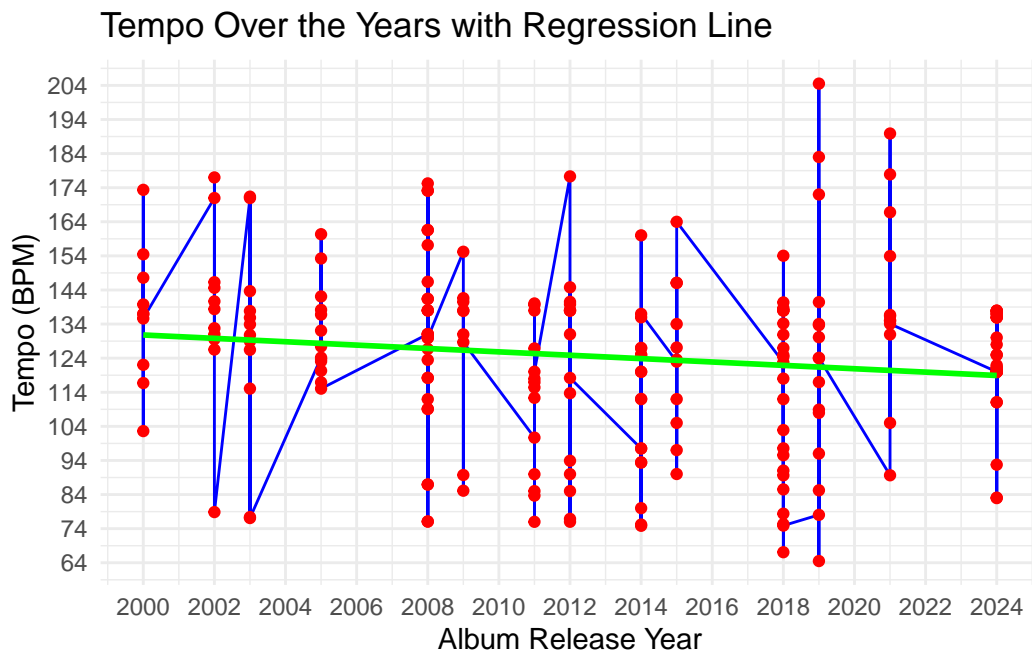


Figure 2: Coldplay Album Tempo Over the Years 2000-2024

## 2.2 Tempo and Album Release Year

From Figure 2, we can see that there are noticeable changes in the tempo of Coldplay’s albums over the years. The green regression line shows a trend of decreasing tempo, from 130 BPM in 2000 to 119 BPM in 2024—a reduction of 11 BPM over 24 years. This suggests that the band’s style is shifting toward producing slower BPM songs. It is also worth noting that the regression line’s trend does not hold for the years 2019 and 2021, where the tempo is significantly higher than in surrounding years. Further investigation is needed to understand the potential cause of this anomaly.

## 3 Appendix

Table 1: Sample of Coldplay Album Data, 2000-2024

Album Release Year	Liveness	Energy	Valence	Tempo (BPM)	Duration Min	Key Mode
2024	0.5350	0.255	0.0793	119.992	4.607933	A major
2024	0.1290	0.539	0.2760	121.143	3.937167	C major
2024	0.0753	0.520	0.6830	135.966	3.890100	F minor
2024	0.1320	0.521	0.3480	136.994	4.008467	B major
2024	0.9390	0.818	0.5870	111.088	3.623000	F major
2024	0.1610	0.447	0.0721	120.094	6.159967	C major

The starter code as well as the data presentation and analysis techniques used are from Telling Stories with Data (Alexander (2023)).

## References

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