

Analysis of ColdPlay band musics*

Aakash Vaithyanathan

Kevin Cai

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1 Introduction[intro]

This paper presents an analysis of Coldplay's albums from 2000 to 2024, using data collected from the Spotify API. The dataset was processed and cleaned in R to explore trends in the band's music, focusing on key attributes including key notes, energy of the songs, and tempo.

Table 1 shows a sample of the dataset used.

2 Data & Results[data]

2.1 Energy of song and it's duration

The above graph 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.

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.

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

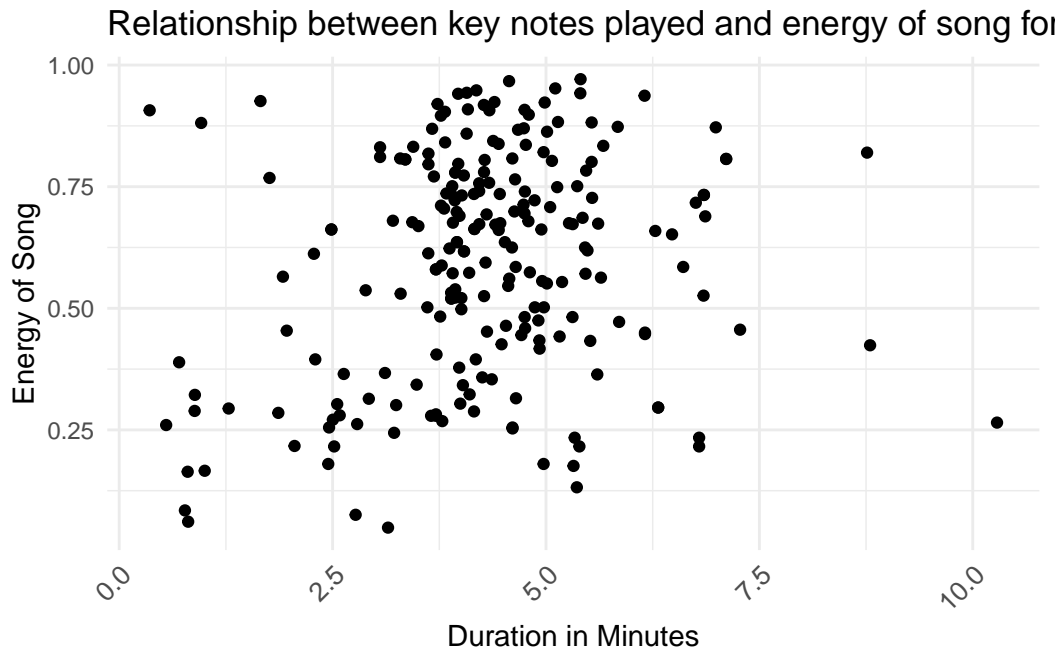


Figure 1: Relationship between energy of song and its duration in minutes

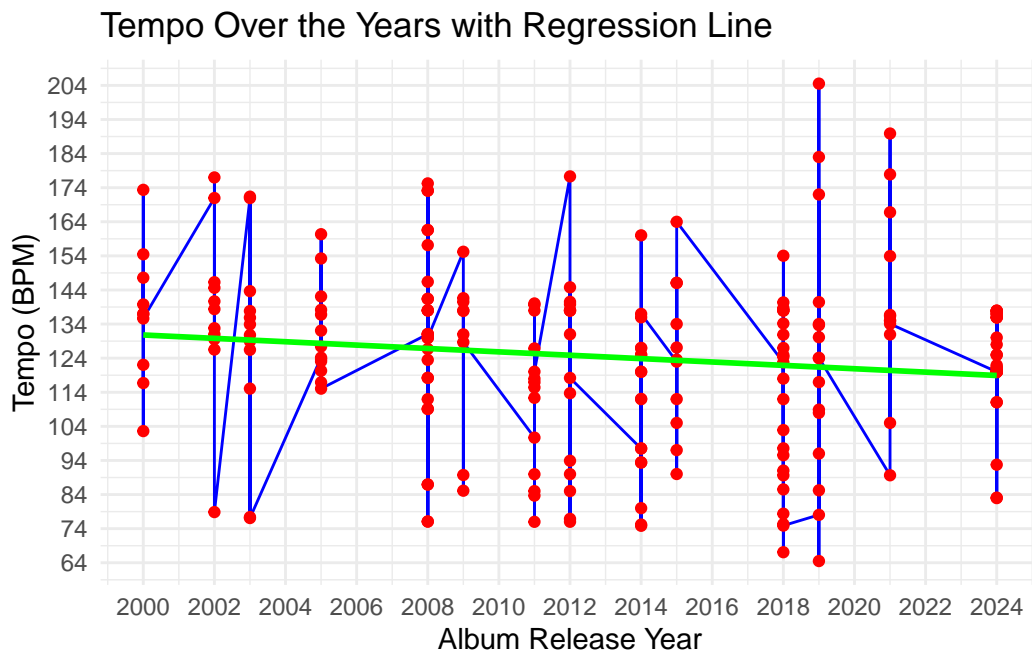


Figure 2: Coldplay Album Tempo Over the Years 2000-2024

3 Appendix

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

Album Release		Liveness	Energy	Valence	Tempo (BPM)	Duration Min	Key Mode
	Year						
	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

References[ref]

Club, Track. 2024. “What Is Energy? - Track Club — Trackclub.helpscoutdocs.com.” <https://trackclub.helpscoutdocs.com/article/41-what-is-energy>.

Coldplay Band. 2024. “Coldplay — Coldplay.com.” <https://www.coldplay.com/>.