

# Question 3: Cold play and Metallica

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## Abstract

Coldplay and Metallica are two of the greatest bands to have graced the stage in recent decades. This paper attempts a comparison of the two bands in order to identify how a band can thrive throughout generations. In this report it is found that the two bands take different approaches to their music. With varying attributes. What this comparison report establishes, is that, it is not possible to compare bands and make an assumption of what their success will look like. Two very different bands can survive through generations.

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## 1. Introduction

This comparison report will take a deep dive into the various attributes of Coldplay and Metallica, such as, tempo, loudness and valence. This comparison report attempts to understand if there are certain attributes that ensure a band's success. Throughout this report it is found that the two bands are very different and that there are no certainties when it comes to what attributes a band needs to become successful.

## 2. Data

The data used is obtained from Spotify for the two bands of Coldplay and Metallica.

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### 3. Graphical representation of the data

3.1. *Histogram: Plotting histograms to Compare the distribution of tempo values for Coldplay and Metallica songs.*

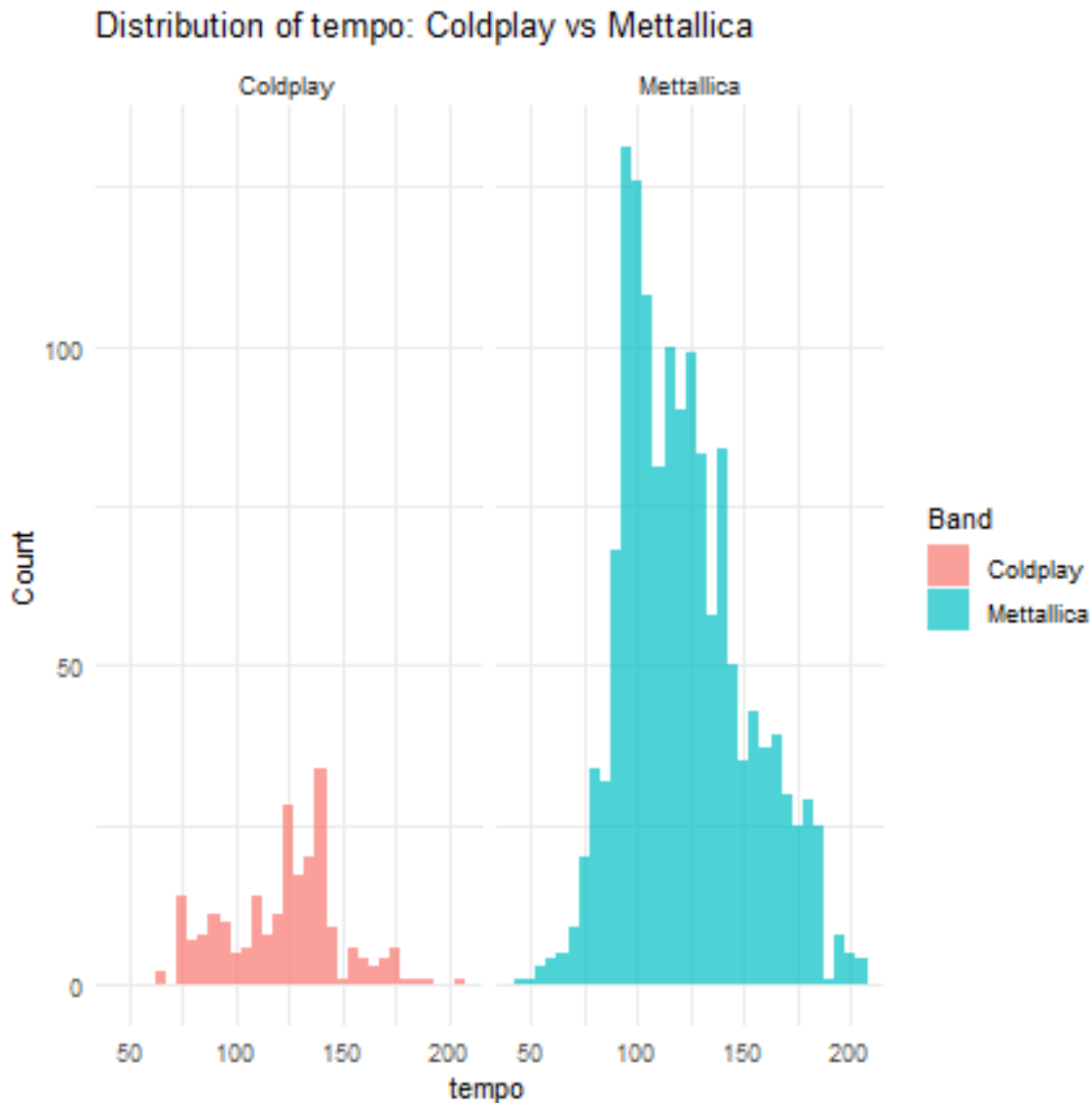


Figure 3.1: Tempo distribution

As can be seen in the above figure 3.1, Mettallica has on average a higher tempo count then that of Coldplay. What this means is that Mettallica tends to play songs that are of a faster pace than Coldplay. What can be taken from this output is that having a fast or slow tempo on average for a band will not hint towards the band not performing well over generations. This is because 3.1, is

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evidence towards two successful bands with differing tempos.

3.2. *Violin Plot: Compare the distribution of loudness values for Coldplay and Metallica songs using a violin plot.*

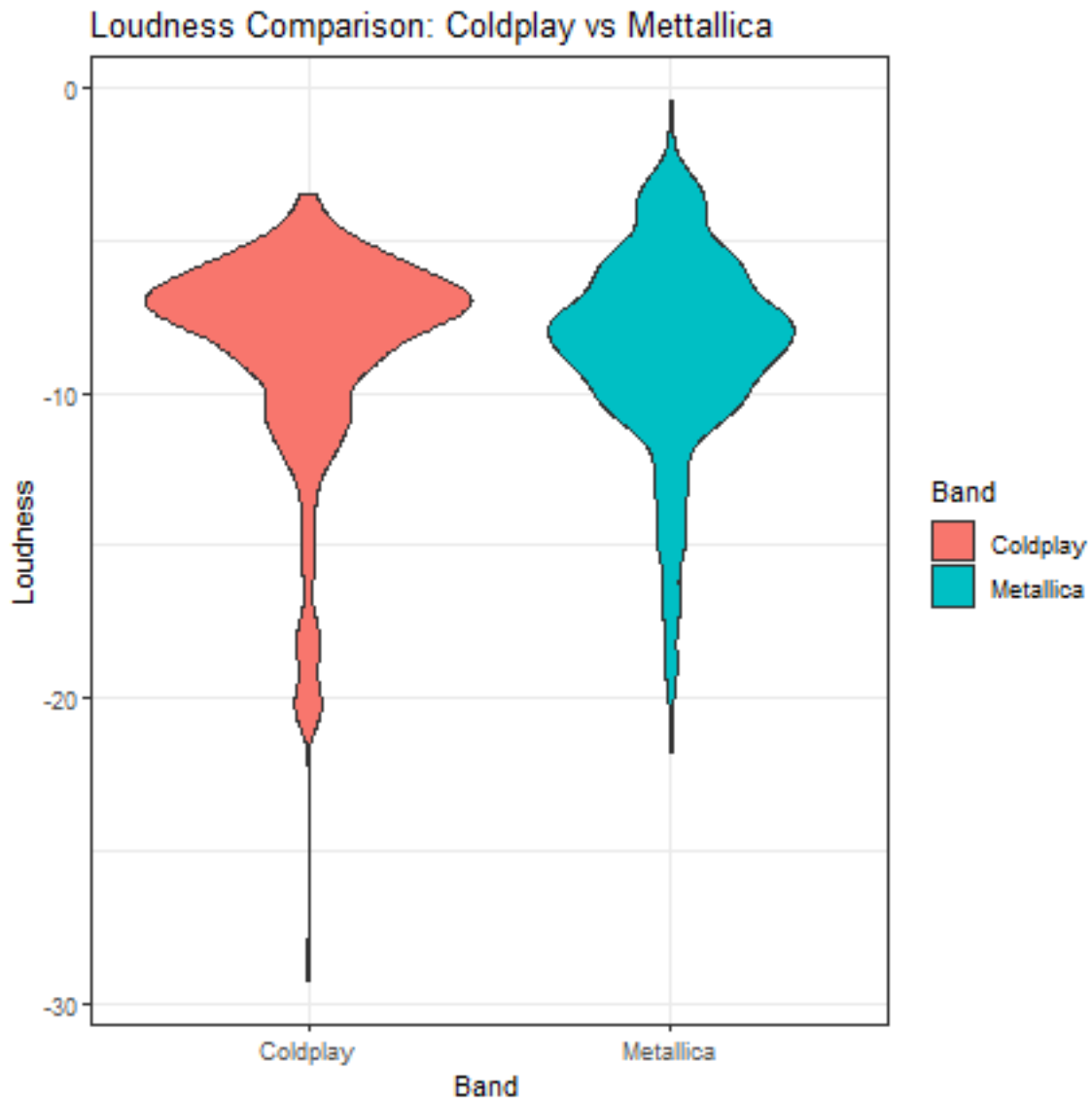


Figure 3.2: Loudness distribution

The purpose of the violin plot is too see the distribution of values. In the case of 3.2, we are analyzing the distribution of the loudness variable for both Coldplay and Mettallica so as to compare how loud the two bands on average play their music. As can be seen from 3.2, The mean values for both bands seem to be similar however, the differences come in when we look at the tails. When evaluating the

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tails of the 3.2 it is evident that Coldplay tends to the lower volume while Mettallica on the occasion will play the louder music.

3.3. *Box Plot: Compare the distribution of multiple attributes (e.g., danceability, energy, valence) between Coldplay and Metallica songs using box plots side by side.*

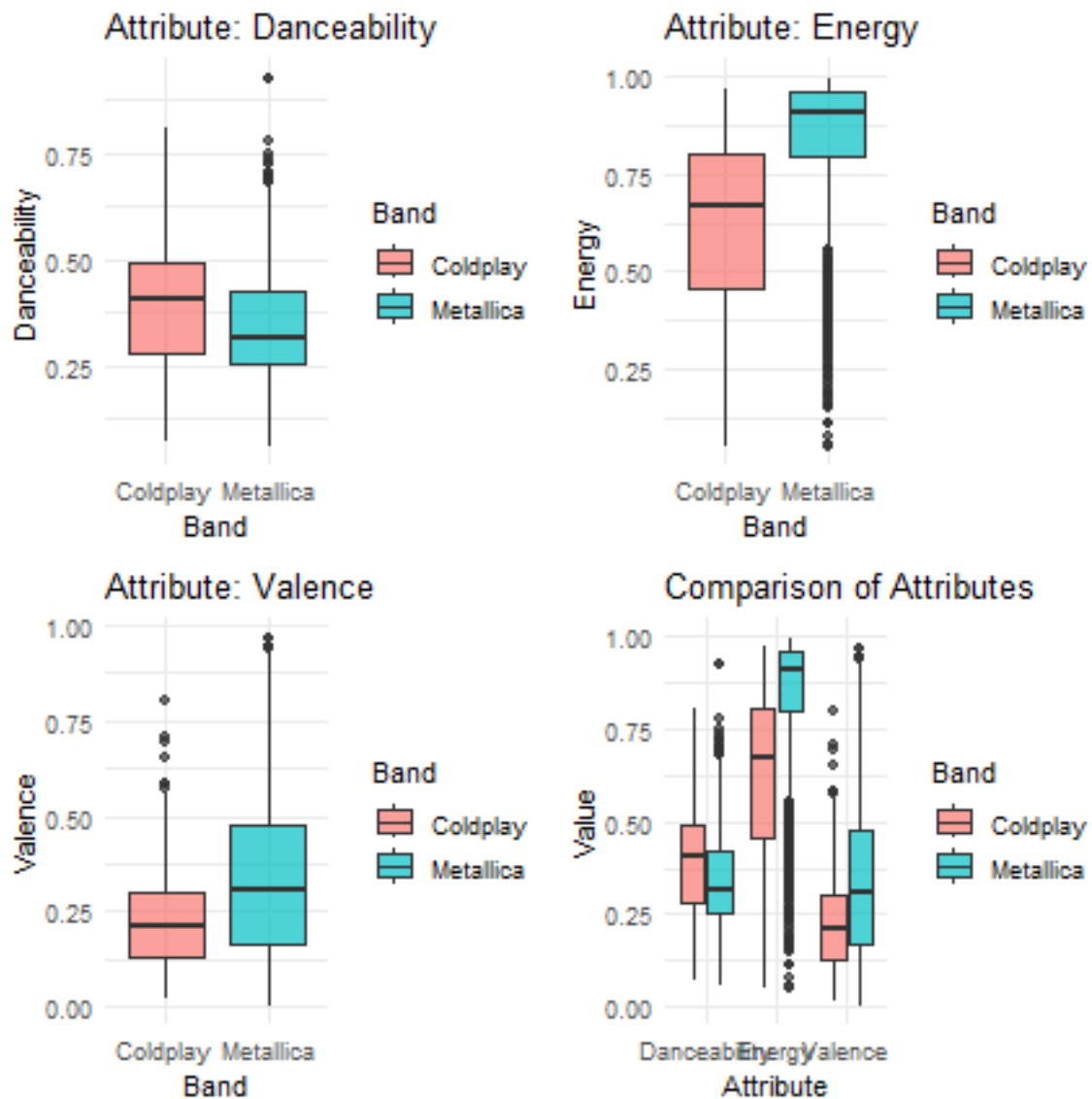


Figure 3.3: Attribute distribution

The final plot we will be looking at are some combined box plots which aims to explain the differences in the attributes of danceability, energy, and valence. As can be seen by 3.3, Mettallica has a lower danceability when compared to that of Coldplay, however, this is the only measure where Mettallica

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lags Coldplay. On the other metrics such as, energy and valence, Mettalic out performs Coldplay.

#### **4. Conclusion**

Therefore, to conclude, when comparring the two generational bands of Coldplay and Mettallica it is evident that the bands are very different. Mettallica tend to play louder music with more energy, while Coldplay likes to play music that is softer but easier to dance too resulting in the attraction of different crowds. Thus from the output seen, there is no one formula that will lead to a band being successful. A band can be successful being themselves and playing music they enjoy.