Evolution of K-pop Girl Group Music*

A Comparative Analysis of Girls' Generation, Twice, and Aespa

Hanqing Yang   Ruiying Li

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This paper tracing the transformation of Song Styles Across Generations of K-pop, focus on 3 representative girl group: Girls' Generation, Twice, and Aespa

1 Introduction

This paper explores the key aspect of this evolution: changes in musical style. We aim to examine the change of K-pop girls' band music by analyzing three musical characteristics: valence (emotional positivity), energy (intensity and activity) and danceability (how suitable a track is for dancing). Through these analyse, this study will offer a comprehensive view of how K-pop girl group music has evolved in music style, providing a deeper understanding of their genre's development.

2 Data

2.1 Overview

This study utilizes data from the Spotify API through the spotifyr package (Thompson 2024), which provides detailed audio features for songs by K-pop girl groups. The primary groups analyzed are Aespa, Girls' generation and Twice, and analyzing and graphing data by using R code (R Core Team 2023) and ggplot(Kassambara 2023)

The origin dataset has 39 variables in total, and this paper only interested in the following 5 variables:artist name,album release date,valence as a measure of the musical positivenes, energy that indicates the intensity,and danceability that reflects how suitable a track is for dancing. Through this data, the study aims to analyze musical trends over time and assess the international influence of these K-pop girl groups.

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*Code and data are available at: [https://github.com/Lorina-Y/SpotifyAPI.git].

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2.2 Change Trends in Audio Features:

Looking at the valence plot(Figure 1),From 2008 to 2010, there was a noticeable increase in valence for Girls' Generation, indicating a trend towards more positive and upbeat songs. However, after 2013, a decline in valence suggests a shift towards darker or more emotionally complex music. By 2023, Aespa's songs show a renewed rise in valence. This "rise, fall, rise" pattern over the past 20 years reflects an evolving approach to song styles.

The plot(Figure 2) shows that K-pop girl group songs consistently exhibit high energy,regardless of the release period. Girls' Generation consistently maintains high energy levels, indicating a preference for intense and dynamic tracks. Twice displays more variability, suggesting a mix of high-energy songs alongside more varied styles. In contrast, Aespa's songs show a slight reduction in energy, which could be attributed to stylistic choices rather than an overall shift in K-pop trends. Overall, the consistently high energy reflects a genre-wide emphasis on lively and impactful music, characteristic of K-pop girl group performances.

The danceability data(Figure 3) indicates a rising trend in K-pop girl group music from 2008 to 2024. Girls' Generation's songs exhibit lower danceability, while Twice and Aespa show higher levels, reflecting an increased emphasis on dance-oriented tracks in more recent years. This trend suggests K-pop girl groups have placed a greater focus on producing music that is more suitable for choreography and dance performances.

3 Conclusion:

These trends suggest that while high energy remains a staple, newer groups emphasize danceability and varied emotional tones, adapting to changing industry trends and audience preferences.

4 appendix:

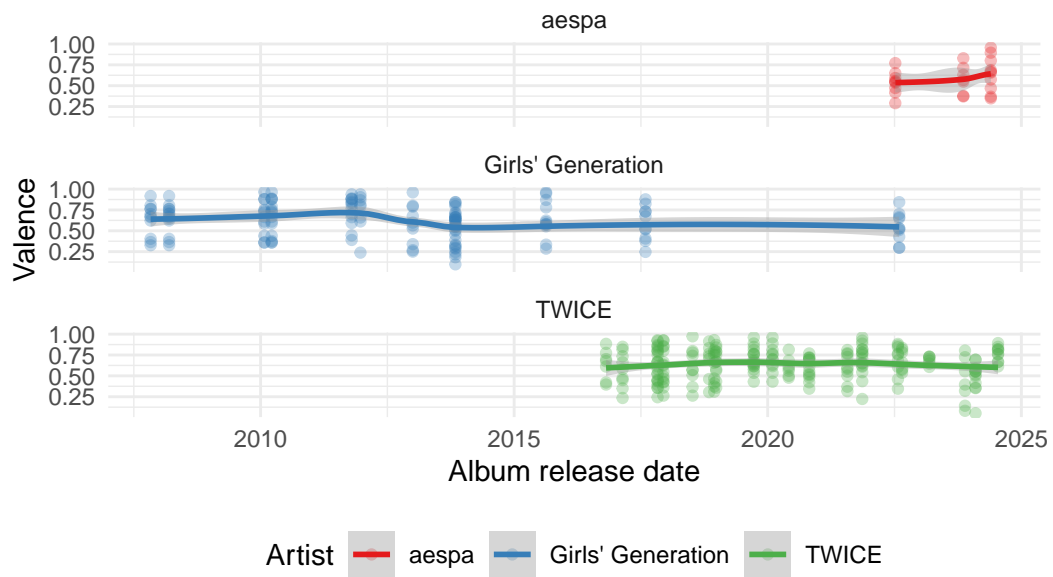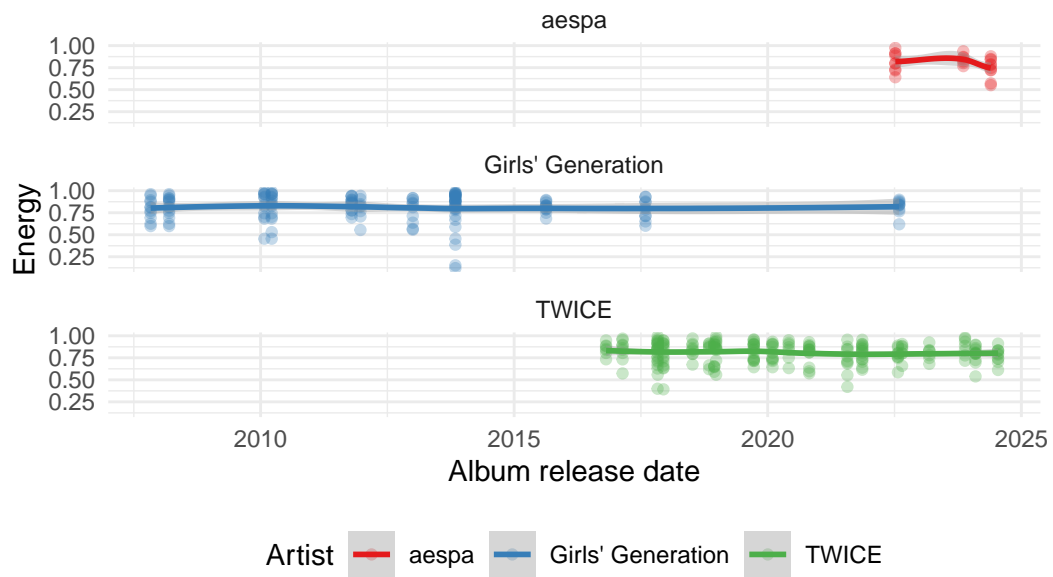Figure 1: Compare the valence of song

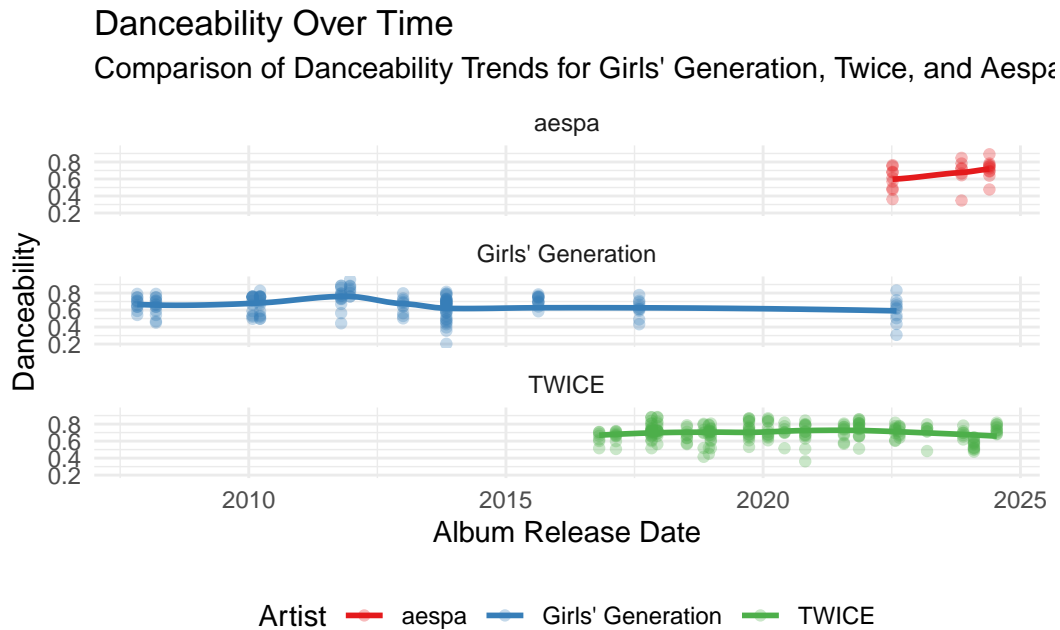Figure 2: Compare Energy of the song

Figure 3: Compare danceability of the song

5 References

R Core Team (2023) Thompson (2024) Wickham et al. (2019) Kassambara (2023) Müller and Wickham (2022)

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