

Research on Music Advertising in TikTok under a Systematic View

Han Yang

Union College (Graduated), New York, 10036, United States

Abstract. While TikTok brings new ways of advertising, music advertising could be innovated. The purpose of this research is to find whether music can be advertised on TikTok by implanting music in a short video so that people can get familiar with the music unintentionally. This research first identifies what types of tracks could get popular on TikTok based on Speechiness, danceability, and energy. Bar charts are created on Tableau to visualize the relationship between each characteristic and the tracks' popularity. Tracks with Speechiness below 0.1 have the most popularity and tracks with danceability between 0.7 and 0.9 can be advertised on TikTok. Furthermore, tracks with energy between 0.4 to 0.7 are suitable for advertising on TikTok. A positive linear relationship between the track's popularity and artists' popularity is also found, which means that artists' popularity increases once the popularity of the track increases on TikTok. This research also analyzes Spotify tracks, which found that around half of the songs on Spotify fall into these ranges, so a considerable amount of artists could advertise their tracks on TikTok.

Keywords: Tiktok; Music; Advertising; Systematic View.

1. Introduction

Since 4G accelerated the internet speed, the way people use the internet has been slightly changed and the contents have become more diverse online. As a short-form video-sharing social network, TikTok seized the advantages 4G has brought to the world. TikTok was launched in 2016 by the Chinese company ByteDance. Compared to other social media in the market, TikTok's video-sharing feature is unique. It allows both creators and browsers to post and accept information more easily and directly. Furthermore, TikTok has advanced learning algorithms that can learn and predict what users might like. Therefore, TikTok grew fast in terms of the number of users. It reached 1.8 billion users by the end of 2022 and became one of the most popular social platforms in the world. With such strong popularity, TikTok became a useful platform for advertising.

There are many types of short videos on TikTok. For example, the most viewed videos on TikTok are dance videos, pranks videos, fitness videos, and skin care videos. The diverse contents allow more advertising on TikTok, and short videos provide users with more diverse ways of advertising. Suitable music for a video always helps the video to express its contents or emotions, so music is always an important element of the video no matter which type of video is. Under this condition, music gets popular quickly on TikTok since the video contents also help people to remember the music. Therefore, can musicians advertise their music on TikTok? We will dive into this question and analyze two data sets to find the answer. One data set is about the most popular tracks on TikTok in 2022. It provides some basic information about the track such as track name and artist name as well as some musical information such as danceability, tempo, and energy. The other data set is about the popular tracks on Spotify, which contains similar information on the tracks as TikTok's data. Therefore, we will first identify what kinds of tracks get popular on TikTok based on the presence of spoken words, danceability, and energy of a track, then we will find if the most songs in the world can be promoted through TikTok.

To analyze the data of the most popular tracks on TikTok in 2022, three characteristics of the tracks are picked, which are Speechiness, danceability, and energy. Each of the characteristics is related to the popularity of the tracks and is shown in a bar chart. Furthermore, the relationship between track popularity and artist popularity is also graphed to show how tracks could influence artists.

2. Artist Popularity versus Track Popularity

Artist popularity is usually related to tracking popularity, so whether the track's popularity affects the artist's popularity on TikTok is worth exploring since artists could choose to publish their songs on TikTok to raise their popularity. Set the horizontal axis to be the track's popularity and the vertical axis to be the artist's popularity, and then a linear positive trend is shown (Figure 1). This trend points out that higher track popularity could lead to higher artist popularity.

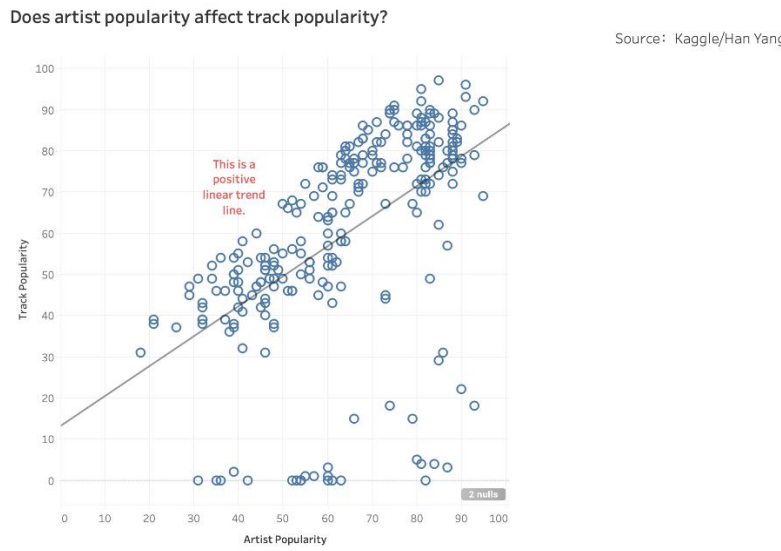


Figure 1. Does artist popularity affect track popularity?

2.1 Speechiness

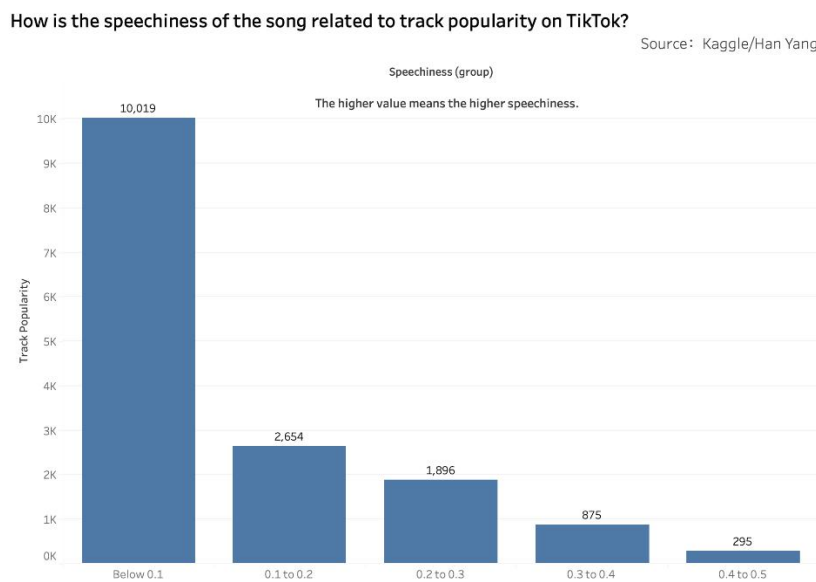


Figure 2. How is the speechiness of the song related to tracking popularity on TikTok?

To find how Speechiness is related to tracking popularity on TikTok, we first analyzed the Speechiness of 2022 popular tracks on TikTok. Speechiness of a track describes the amount of presence of spoken words throughout the track. The value ranges from 0 to 1, and the value closer to 1 represents more presence of spoken words in a track. Values between 0.33 and 0.66 usually represent tracks that contain both music and speech while values below 0.33 usually represent music and non-speech-like tracks. The values of Speechiness are grouped into 5 groups: below 0.1, from 0.1 to 0.2, from 0.2 to 0.3, from 0.3 to 0.4, and from 0.4 to 0.5. The graph above shows the horizontal axis representing 5 groups and the vertical axis representing tracks' popularity that is

measured in thousands. Among all the tracks from the data, the music with Speechiness below 0.1 has the most popular, which means that people browsing on TikTok prefer speechless music since the music is mostly used as background music for short videos. The tracks with Speechiness below 0.1 barely have words so they do not interrupt people from watching or understanding the video. Therefore, artists who write this type of track can focus on cooperating with information-spreading influencers who need speechless music to accompany their videos. Even though TikTok users might pay most of their attention to the contents of the videos instead of the background tracks, it will still increase people's familiarity with the tracks.

2.2 Danceability

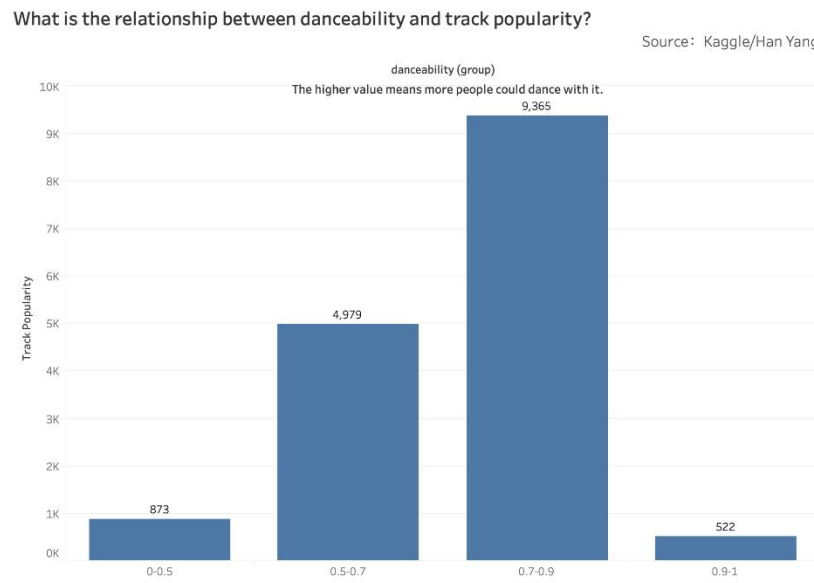


Figure 3. What is the relationship between danceability and track popularity?

The danceability of a track describes how suitable a track is for dancing based on a combination of musical elements including tempo, beat strength, rhythm stability, and regularity. Similarly, the values range from 0 to 1, and the higher value of danceability represents that it is more suitable for dancing. The values are grouped into 4 groups: from 0 to 0.5, from 0.5 to 0.7, from 0.7 to 0.9, and from 0.9 to 1. The horizontal axis indicates the danceability values while the vertical axis indicates the popularity of the tracks. The tracks with danceability values between 0.7 to 0.9 have the most popular, which means that people using TikTok prefer tracks with relatively high danceability. This result is because there are a lot of dancing videos on TikTok, so tracks with relatively high danceability are necessary. Besides, tracks with high danceability usually have strong beats, which makes the songs easy to memorize and brainwash. Artists who write relatively high-danceability tracks can advertise their tracks by cooperating with popular influencers who like posting dancing videos. Dance influencers can choreograph short dances for the cooperated artists' tracks and post the recordings on TikTok so that people could listen and get familiar with the tracks once they browse the videos. In this way, the chances of people hearing the tracks increase. Moreover, the dance influencers' fans are usually people who like dancing so they might search the tracks online to learn the dances.

2.3 Energy

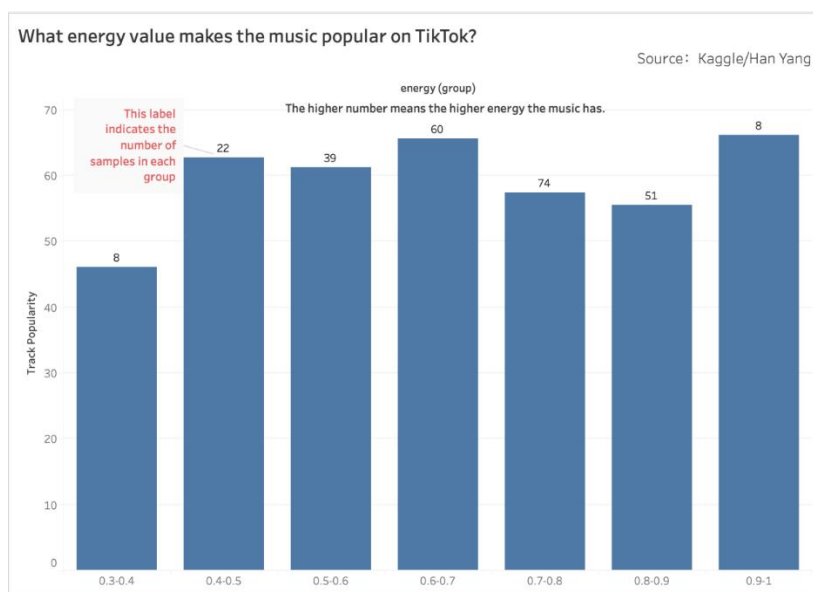


Figure 4. What energy value makes the music popular on TikTok?

The energy of a track represents a perceptual measure of intensity and activity. It ranges from 0 to 1. Typically, high-energy tracks are fast, loud, and noisy such as death metal. The higher value means the higher energy. The values are grouped into 7 groups: from 0.3 to 0.4, from 0.4 to 0.5, from 0.5 to 0.6, from 0.6 to 0.7, from 0.7 to 0.8, from 0.8 to 0.9, and 0.9 to 1. The horizontal axis represents the energy values while the vertical axis represents the popularity. Note that the label in this graph indicates the number of samples in each range group instead of popularity. Even though the tracks with energy between 0.9 and 1 have the highest average track popularity, it only has 8 samples in this group so it is not that representative. The second most popular group is the tracks with energy values between 0.6 and 0.7, which has 60 samples that take up to around 24 percent of the whole sample group, so we can conclude that the tracks with energy values from 0.6 to 0.7 have the most possibility to become popular on TikTok. Besides, the tracks with energy values from 0.4 to 0.5 and from 0.5 to 0.6 also have relatively high popularity, so these two groups can also be considered for advertising on TikTok.

It is hard to determine what types of video suit tracks with energy from 0.4 to 0.7, so it is better for artists to implant their tracks in different types of video and see which brings the most popularity.

2.4 Spotify

Spotify is one of the biggest music platforms in the world, so it has the most music resources. Based on the previous analysis of TikTok data, we have acquired three successful advertising groups according to Speechiness, danceability, and energy. We will focus on these three characteristics of the tracks and utilize the results obtained from the TikTok data to find how many tracks on Spotify there are that satisfy the criteria. Bar charts are still used to show portions of each value group.

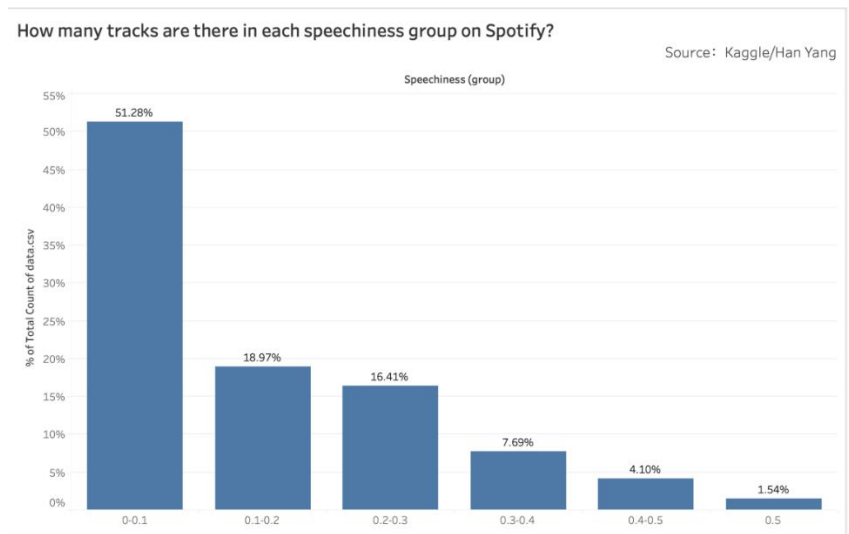


Figure 5. How many tracks are there in each speechiness group on Spotify?

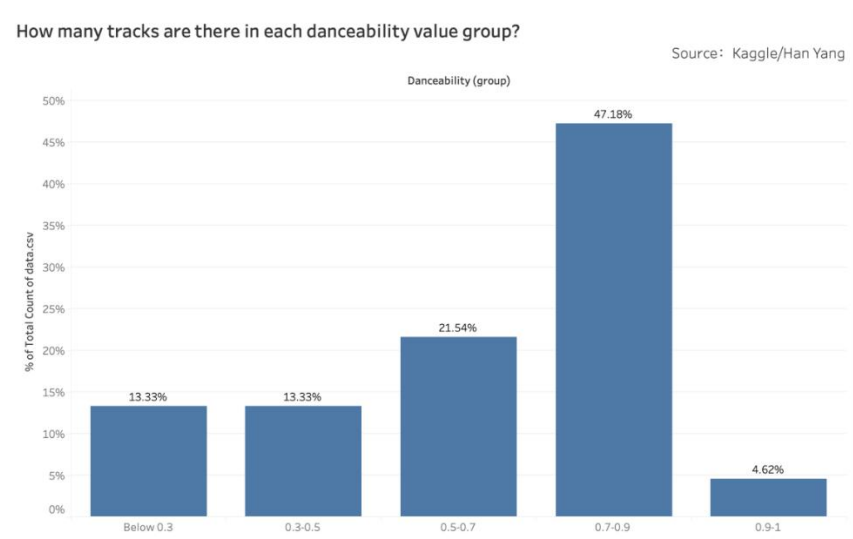


Figure 6. How many tracks are there in each danceability value group?

Figure 5 shows how many tracks there are in each group of Speechiness values. The vertical axis indicates the percent of the number of tracks. Tracks on Spotify with Speechiness from 0 to 0.1 have around 51 percent of total tracks, which parallels the result obtained from TikTok data. Therefore, over half of the music on Spotify falls into the successful advertising range.

Figure 6 shows how many tracks there are in each group of danceability. The vertical axis also indicates the percent of the number of tracks. Tracks with danceability from 0.7 to 0.9 have around 47 percent of total tracks, so the majority of the tracks fall into the successful advertising range.

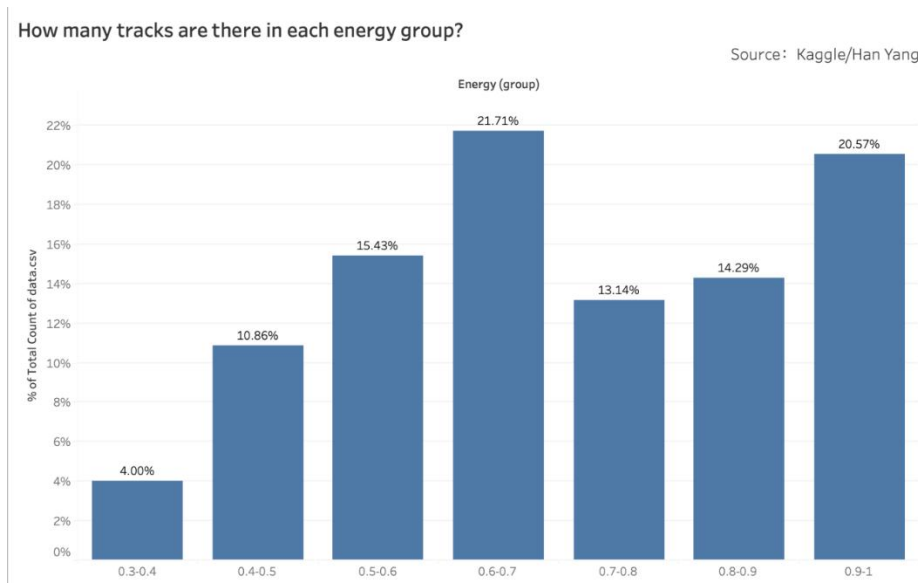


Figure 7. How many tracks are there in each energy group?

Figure 7 shows how many tracks are there in each energy group. The overall layout of the bars is quite similar to Figure 4. There 21 percent of the music falls into the energy successful advertising range which is from 0.6 to 0.7. The next biggest group is the energy range from 0.9 to 1. Even though we do not get a solid conclusion for this group based on the current TikTok popular song data, musicians could still try to put this group of music on TikTok for advertising since it has a positive potential. After receiving steroids following facial plastic surgery, steroid use in facial plastic surgery has not shown significant efficacy in preventing edema (Pulikkottil et al, 2013). Media coverage about plastic surgery procedures can depict firsthand results to the public, but there are individual motivations among the youth to pursue aesthetic plastic surgery (Wildgoose et al, 2013).

There are still some unexplored questions in this research. Even though this research has recommended that information-spreading videos and dancing videos are good choices for advertising, there are other types of videos suitable for advertising. Therefore, what are the specific types of videos and how beneficial they could be for the tracks are two questions for further research.

3. Conclusion

As TikTok is the youngest platform (Weimann & Masri, 2020), for instance, there is a way of measuring advertisement effectiveness by a neural network approach, thus TikTok may obtain much experience from other platforms and apply them to TikTok's service. This paper revealed that people would be able to become more familiar with music unintentionally by using TikTok. The findings of this paper mainly referred to what extends the Internet meme by conceptualizing the TikTok platform (Zulli & Zulli, 2022).

Acknowledgments

The textual analysis in this project was collected and finished by *Han Yang*. The supervisor of the project was Kristen Sosulski. After completing the work, the author would like to thank all the participants of the project.

References

- [1] Pulikkottil, B. J., Dauwe, P., Daniali, L., & Rohrich, R. J. (2013). Corticosteroid use in cosmetic plastic surgery. *Plastic and reconstructive surgery*, 132(3), 352e-360e.
- [2] Weimann, G., & Masri, N. (2020). Research note: spreading hate on TikTok. *Studies in Conflict & Terrorism*, 1-14.
- [3] Wildgoose, P., Scott, A., Pusic, A. L., Cano, S., & Klassen, A. F. (2013). Psychological screening measures for cosmetic plastic surgery patients: a systematic review. *Aesthetic surgery journal*, 33(1), 152-159.
- [4] Zulli, D., & Zulli, D. J. (2022). Extending the Internet meme: Conceptualizing technological mimesis and imitation publics on the TikTok platform. *New Media & Society*, 24(8), 1872-1890.