

## "Theory"

Research into the song selections for Presidential campaigns typically emphasizes how campaign songs use rhetoric to invoke patriotism or other favorable characteristics [4], or how campaigns use popular music to better draw positive attention to candidates [5], often by positive lyrics or association with artists. However, little work has been undertaken regarding the "musical" aspects of campaign – that is, what "kinds" of songs, looking past the lyrics, do candidates select?

Given that campaigns seek to establish positive images of candidates, we might predict that campaigns select songs that are more up-tempo, in major keys, and invoke positive and happy feelings among listeners.

## Spotify API Audio Features

The Spotify Web API has quantitative measures of various musical features for each song. Some important ones include [1]:

- **Danceability** describes how suitable a track is for dancing based on a combination of musical elements including tempo, rhythm stability, beat strength, and overall regularity. A value of 0.0 is least danceable and 1.0 is most danceable
- **Energy** is a measure from 0.0 to 1.0 and represents a perceptual measure of intensity and activity. For example, death metal has high energy, while a Bach prelude scores low on the scale. Perceptual features contributing to this attribute include dynamic range, perceived loudness, timbre, onset rate, and general entropy.
- **Key** refers to what key the track is in. In classical music theory, different keys are meant to evoke different emotions from listeners. For example, keys such as F major are thought to signify triumph over struggle [2].
- **Valence** is a measure from 0.0 to 1.0 describing the musical positiveness conveyed by a track. Tracks with high valence sound more positive (e.g. happy, cheerful, euphoric), while tracks with low valence sound more negative (e.g. sad, depressed, angry).

## Methods

Using Python, I scraped the Spotify Web API for the playlists of both the Biden and Trump 2020 Presidential campaigns. I collected:

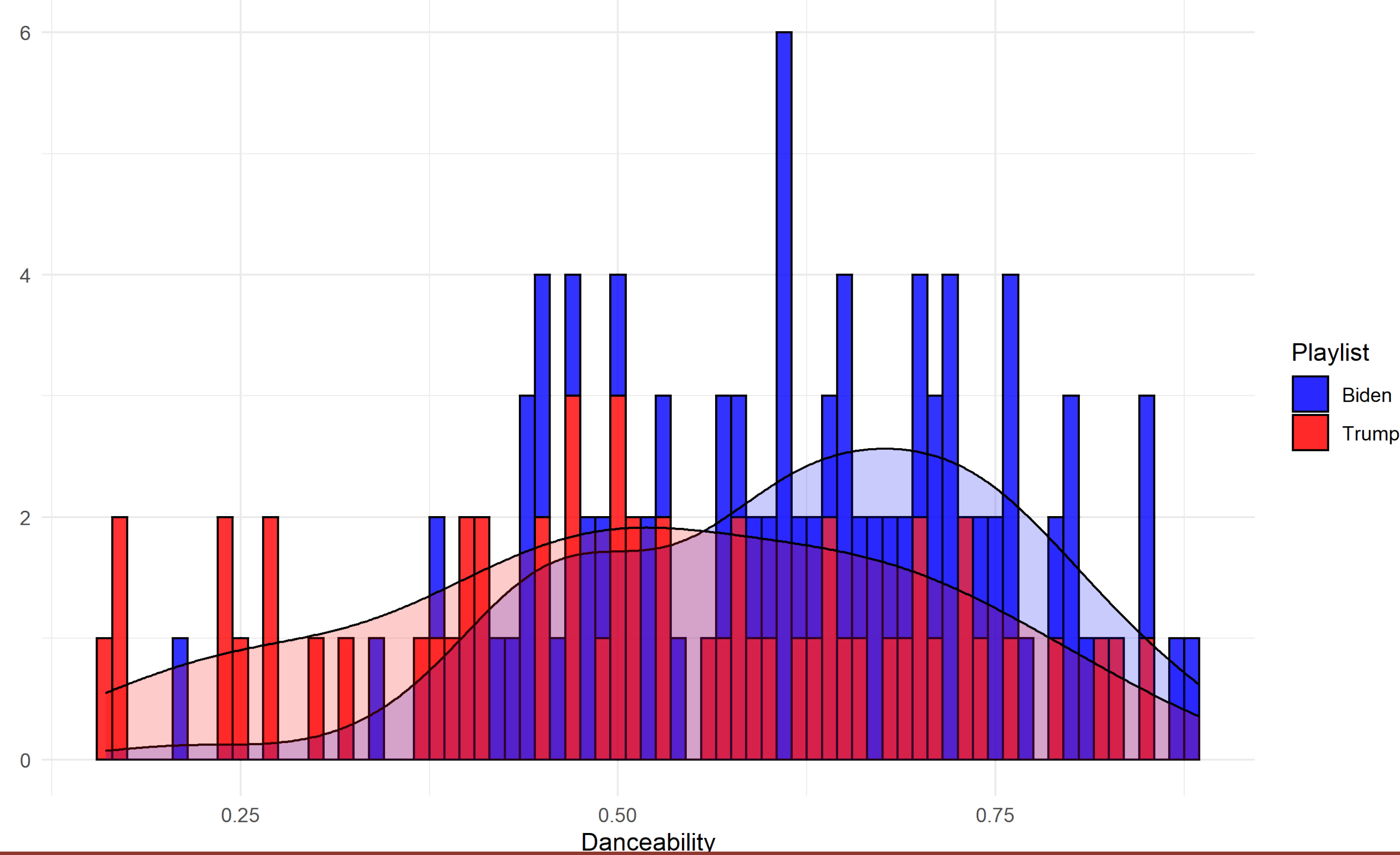
- Every track on both campaign playlists ( $n = 121$ )
- Audio Features data for each track on each playlist

I then used ggplot2 in RStudio to create descriptive figures for each candidate.

## Danceability

Overall, the Biden campaign playlist was more danceable, but neither playlist seemed to shy away from undanceable songs. Songs included "Ride of the Valkyries" by Richard Wagner ( $d = 0.25$ ) and "Born to Run" by Bruce Springsteen ( $d = 0.27$ ) – songs that are considered anthemic or iconic with mass recognition and appeal, but aren't generally categorized as dance tracks. And songs such as "God Bless the USA" by Lee Greenwood ( $d = 0.299$ ) merit their inclusion by the emphasis on directly patriotic or nationalistic rhetoric, in spite of low danceability.

Figure 1: Danceability of 2020 Presidential Campaign Playlists

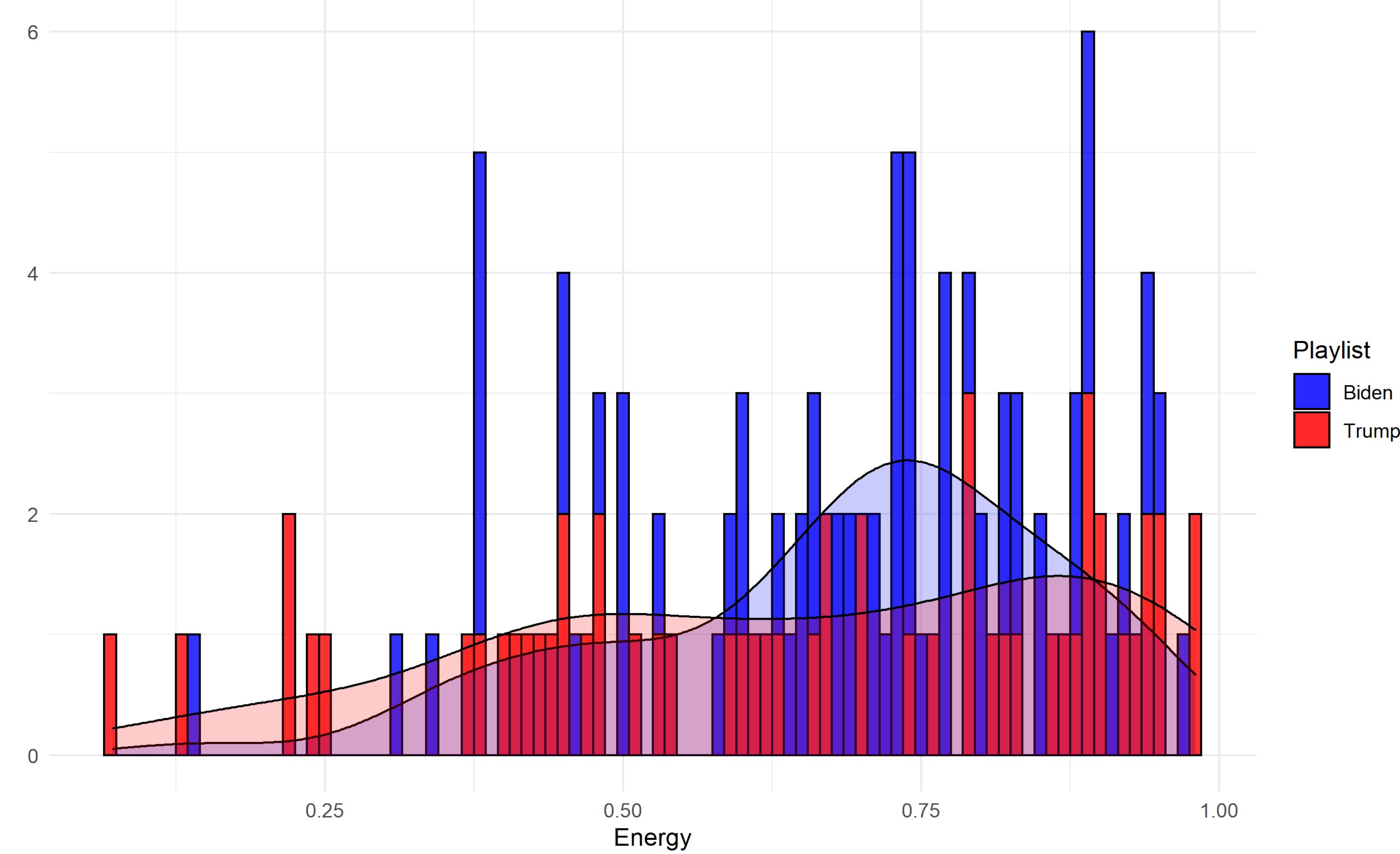


Danceability

## Energy

Both playlists emphasized higher-energy tracks. This makes sense given the prediction that lively, energetic songs might evoke more positive reactions. And while danceability requires more specific musical consistencies, higher-energy tracks play a much simpler role of getting a crowd going. Particularly notable is the Trump campaign's use of "Paradise City" by Guns N' Roses – a song that scored quite low on danceability ( $d = 0.0192$ ) but the highest of either playlist on energy ( $e = 0.98$ ).

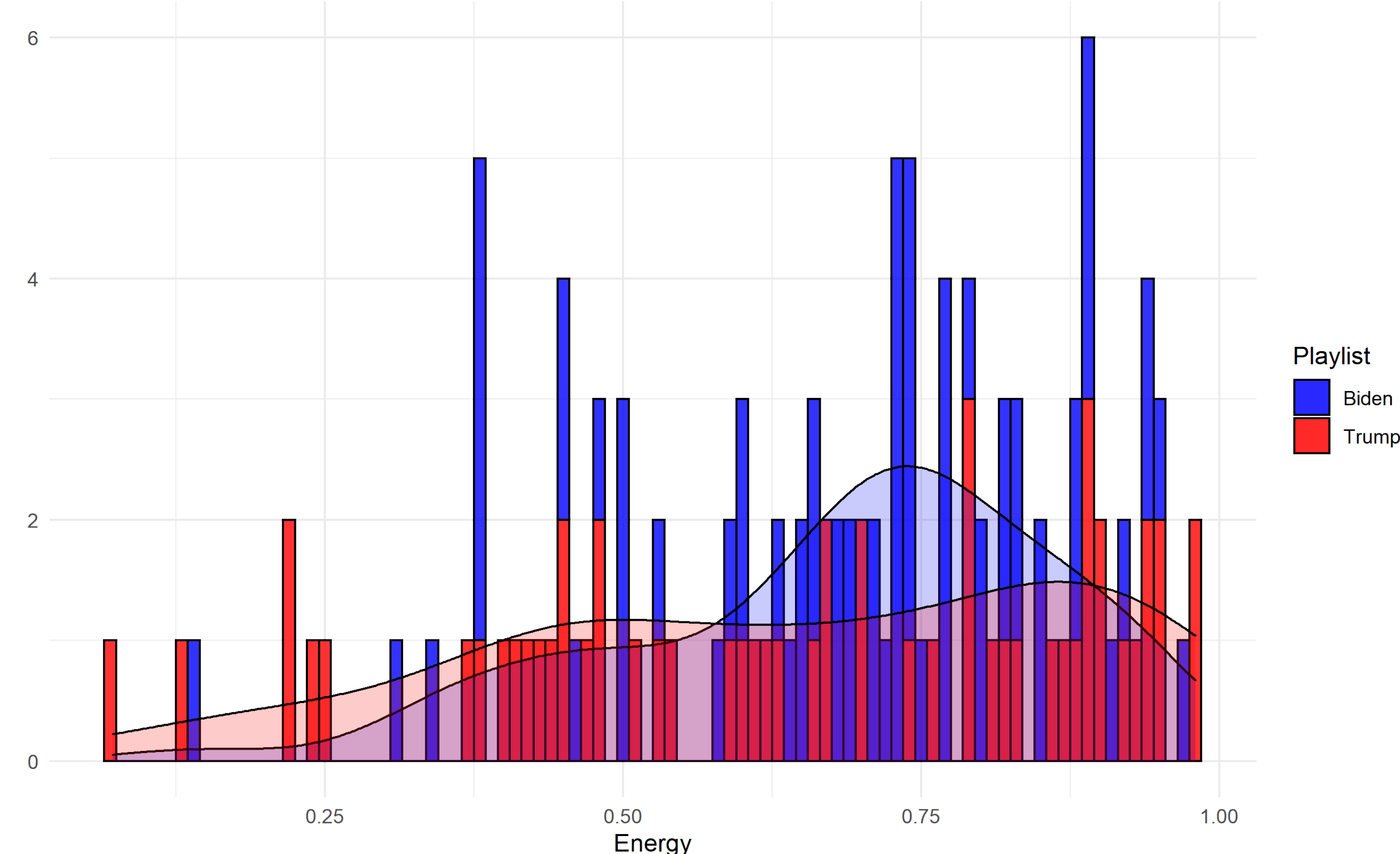
Figure 2: Energy of 2020 Presidential Campaign Playlists



## Valence

The Biden campaign selections centered around a higher valence than that of the Trump campaign. That is, these songs tended to be more compositionally positive than the Trump songs. Perhaps this was due to the Trump campaign's attempts to portray Biden as a low-energy, "sleepy" candidate. Along with energy and danceability, high valence songs (on average) could help overcome this portrayal. It's noteworthy that the Trump campaign had more songs at the highest end of the distribution; their use of songs like (aptly-named) "Happy" by Pharrell Williams ( $v = 0.96$ ) and "Start Me Up" by the Rolling Stones ( $v = 0.97$ ) stand out as helping pull the Trump playlist up near the top end of the distribution, despite lower modal valence.

Figure 3: Valence of 2020 Presidential Campaign Playlists

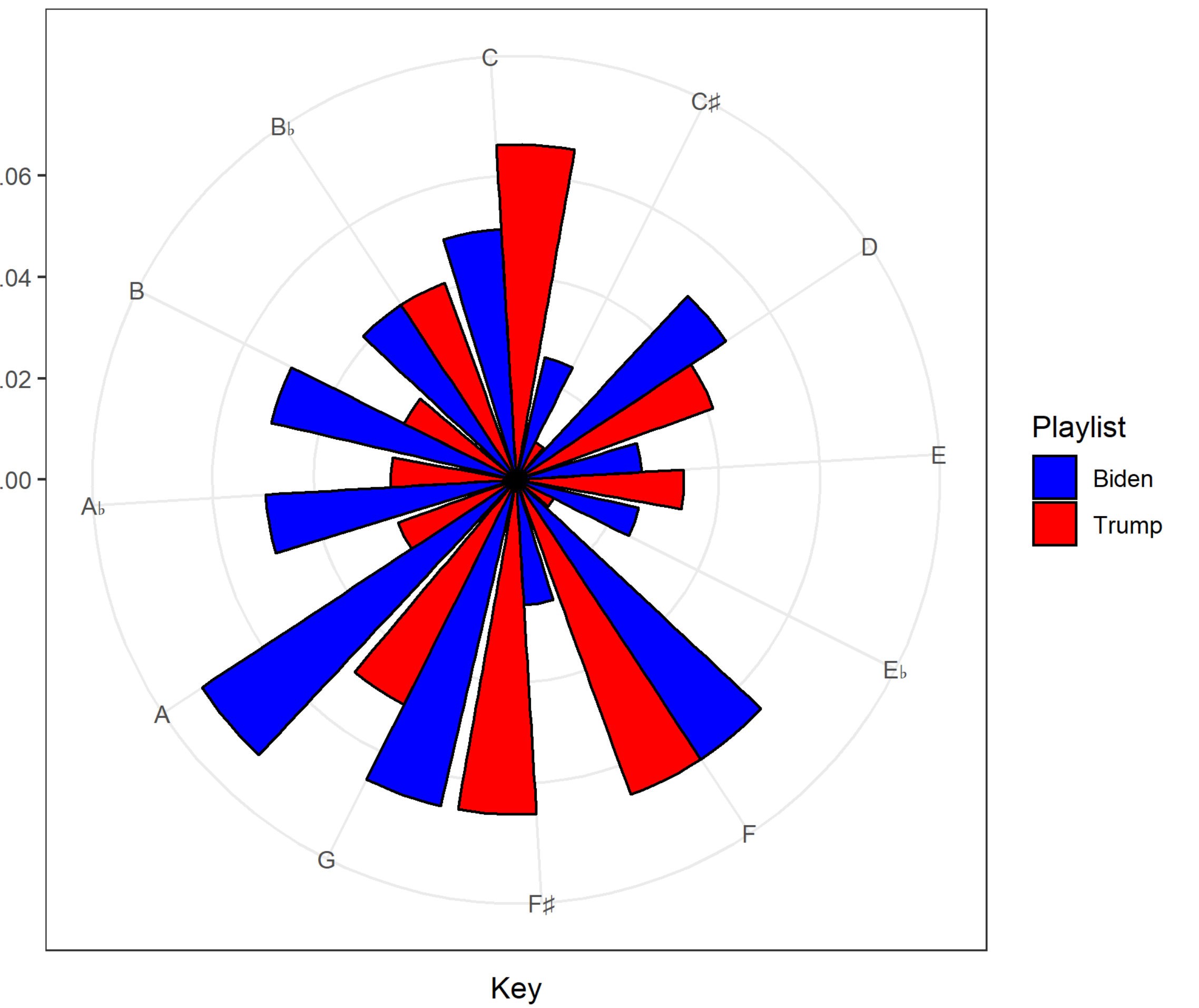


Energy

## Key

While both campaigns emphasized the triumphant F major key, the Biden campaign disproportionately used the key of A – including "I Will Always Love You" by Dolly Parton – which is generally a more solemn and serious key, perhaps reflecting the general overtones of the year 2020. The Trump campaign, conversely, placed emphasis on songs in C, such as Elton John's "Saturday Night's Alright for Fighting", which often evoke nostalgia and an almost childlike happiness – perhaps a reflection of his "keep America great" agenda.

Figure 4: Key Signatures of 2020 Presidential Campaign Playlists  
Proportion of Playlist Songs in Each Key



## Discussion

Overall, these findings seem to reinforce the notion that campaigns, even in times of political turmoil, still rely on mostly-positive music to energize participants in their campaigns. However, the musical features of the Biden playlist strongly emphasized the seriousness of the state of America even amidst the happier musical overtones, while the Trump playlist seemed to go all-in on songs that used composition to evoke strength and nostalgia.

Of course, these choices are likely secondary to considerations of rhetoric and mass appeal. It's unlikely that curators of Presidential campaign playlists even consider audio features of music the way a corporation like Spotify does. But thinking about playlists along these lines sheds light onto what kinds of music make it into a campaign playlist, and to what extent there is overlap between campaign playlists and popular music in general. Questions remaining include considerations of what songs are deliberately left out of campaign playlists, or what kinds of factors influence decisions regarding songs on the margin of inclusion.

Finally, not all the artists represented on these playlists – particularly the Trump playlist – gave their consent for the use of their songs. While attempts at legal action were mixed, it is insightful that campaigns are sometimes willing to completely disregard the threat of legal action for the sake of including a popular song, illuminating a new facet of what choices campaigns make in assessing benefits and consequences of more mundane actions than fundraising or advertising.

## References

- [1] Spotify web api.
- [2] Western michigan university: Musical key characteristics.
- [3] Astead W. Herndon, Gabriel Gianordoli, Umi Syam, Jon Caramanica, and Jon Pareles. What does campaign rally music say about a candidate?, Aug 2019.
- [4] William Miles. *Songs, odes, glees and ballads: A bibliography of american presidential campaign songsters*. Greenwood Pr., 1990.
- [5] Benjamin S. Schoening and Eric T. Kasper. *Don't stop thinking about the music: The politics of songs and musicians in Presidential Campaigns*. Lexington Books, 2012.