

# *The Major Influence of the Minor Key*

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**DSC 680 – Winter Quarter**

[https://github.com/kirbyeburns/DSC680\\_Project\\_2](https://github.com/kirbyeburns/DSC680_Project_2)

## **Which Domain?**

This project will focus on song popularity and the correlation between popularity of a song and its musical key and other musical features. Unlike my last project, I have a great deal of experience with music theory and performance.

I am using the following references to begin this project:

Carlton, Dave. June 6, 2012. “The Hooktheory Blog” <https://www.hooktheory.com/blog/i-analyzed-the-chords-of-1300-popular-songs-for-patterns-this-is-what-i-found/#.Xgpg5WDqdHw.link>

Lee Lin, Helen. November 14, 2012. “Pop Music Study Shows Shift Toward Minor Key Melodies Since 1960.” [https://www.huffpost.com/entry/pop-music-study-minor-key\\_n\\_2122726](https://www.huffpost.com/entry/pop-music-study-minor-key_n_2122726)

Corder, Frederick. July 1919. The Musical Quarterly: Major versus Minor – Some Curious Statistics. [https://www.jstor.org/stable/738197?seq=1#metadata\\_info\\_tab\\_contents](https://www.jstor.org/stable/738197?seq=1#metadata_info_tab_contents)

McKinney, Kelsey. December 26, 2016. “The Music theory principle that unifies 2016’s radio hits.” <https://www.vox.com/culture/2016/12/26/13956220/top-40-ambiguous-key-centers-bieber-chainsmokers-adele>

NME Blog. February 14, 2013. “The Science of Music – Why Do Songs in a Minor Key Sound Sad?” <https://www.nme.com/blogs/nme-blogs/the-science-of-music-why-do-songs-in-a-minor-key-sound-sad-760215>

Utton, Dominic. February 6, 2018. “How do we evoke emotion with music?” <https://www.telegraph.co.uk/music/power-of-music/how-to-create-emotion/amp/>

Terreberry, Steve. September 7, 2016. “MAJOR songs in MINOR.” <https://www.youtube.com/watch?v=DzGSRI827IQ>

Denure, Katie. February 2, 2019. “Happy Love Songs...In Minor Keys! LOL!” <https://www.youtube.com/watch?v=vB0Xvnm1mfQ>

Musical U Team. January 9, 2018. “The Ultimate Guide to Minor Keys.” <https://www.musical-u.com/learn/the-ultimate-guide-to-minor-keys/>

Leiva, Johan Modahl. September 1, 2017. “Most popular keys in songwriting.” <https://www.jmlmusic.no/songwriting-blog/most-popular-keys-in-songwriting>

## **Which Data?**

The dataset I will be using was uploaded to Kaggle.com by the user Steven Tran nine months ago and is found at: <https://www.kaggle.com/huanntan100/spotify-song-popularity-prediction/data>

This dataset contains the Spotify songlist of over 150k tracks, each with 14 graded characteristics, from 26 different genres and over 13k different artists.

### **Research Questions? Benefits? Why analyze these data?**

My primary research question is, “What makes a song popular?” I intend to analyze the song list to determine if there is a correlation between the key of a song and its popularity. Within that scope, determine what features of the more popular Major key and Minor key songs correlate to their popularity.

The benefit of this study would be to provide some degree of influence over the types of songs a radio station, live band performer or even a party DJ would play for their audience.

My interest in this is not only because I am in a band and have been a musician for as long as I can remember, but also that I am always interested when writing a new song or when covering an already established song the types of chord structures that I should use to convey the emotion of the song.

### **What Method?**

I will be using Python to clean the data (if necessary) and create visualizations to depict the relationship between popularity and the other features, with special attention to the key.

### **Potential Issues?**

I see my biggest challenge is in providing something of substance that can’t be done by filtering a Excel spreadsheet. I don’t just want to say “Here are the most popular songs in THIS key,” I want to be able to say “These songs are popular because of THIS.”

### **Concluding Remarks**

I’m a musician and, while I’ve seen other examples of competition entries that seek to determine how to write the perfect song or create the perfect movie, I believe that if a song is properly written with good tone and melody, it can sound good and be “popular.” I believe it to be a very unartistic thing to do to set out to write a song simply for its statistical probability of being popular. But it is interesting to see how the popular songs rate in terms of their musical features.