Name(s)	Project Number
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Project Title
Rockin' to the Beat of History: A Statistical Analysis of 60 Years of Popular Music

Abstract

Objectives/Goals
My goal was to identify specific trends in popular music over the last sixty years that music producers and songwriters could follow to help target their songs for greater popularity and profitability. My hypothesis was that the tempo in beats per minute (BPM) would increase, the amount of self-focused "I/Me/Mine" pronouns would increase, and that songs written in a Minor Key would increase over time.

Methods/Materials
I used Billboard Magazine's website archives of "Top 100" songs to gather my song data. To create a representative sample, I used data from every 5 years and included half of the Top 10 songs from the "Top 100" list. I used the Note Discovery website to find the Beats per Minute (BPM) and the key of each song. I used www.genius.com and www.atozlyrics.com to find the lyrics for each song. Finally, I created graphs using Excel that included trend lines to see changes over time for these variables.

Results
The data shows for thirty years in a row (1960-1990), 80-100% of songs were written in a Major key. That decreased to 60% in 1995, to 40% in 2005, and finally reached an all time low of 20% in 2010. The clear trend shows a current preference for songs written in a Minor key.

The data reveals that the fastest songs each year stayed fairly consistent with an average of 150 beats per minute. However, the slowest songs showed a clear downward trend, dropping an average of 30 BPMs over sixty years.

The data shows an average increase of 30 self-focused pronouns in song lyrics from 1960-2015.

Conclusions/Discussion
Contrary to my hypothesis, current songs are not faster. However, the data shows that today's slower hits have become much slower over time. Today's faster and medium tempo hit songs have remained fairly consistent except for a spike in tempo during the Disco era.

There has been a clear and steady increase in songs written in a Minor key, which I interpret to indicate songs with a more "sad" musical tone over time.

Self-focused pronouns in lyrics have increased by an average of 30 pronouns per song over time, which demonstrates to me that songs are becoming more focused on the self instead of on others.

Summary Statement
My analysis of popular music from the past sixty years shows that slower songs, in a Minor key, with less than sixty self-centered pronouns in the lyrics are currently trending in popularity.

Help Received
My parents helped me to set up the Excel program for entering my collected data and creating graphs.