**Music and Mental health EDA analysis**

**Statistical/Hypothetical Question:**

* What's the most popular music streaming service as per the survey.
* Does most of the music listener likes to play instrument or music composer who listens music?
* Analyze the MH ranking and OCD ranking based on the survey dataset.
* Individuals that listen to music while working are more likely to explore new music and listen to music in different languages.
* Does Older individuals are less inclined to explore new music.
* How does music impacts on the respondents. Does it have a positive or negative impact.
* What is the most popular genre of music as per the survey.
* What’s the most widely used streaming service based on age.
* Which genre is most popular for which age group.
* Is there any correlation between BPM and mental health.
* How does the anxiety/Insomnia varies based on Age.

**Outcome of EDA:**

* Rock is the most popular genre as per the analysis.
* As per the pie diagram, most respondents do not play an instrument. It is even rarer for a respondent to compose music.
* Most of the respondents reported they listen to music 0.5-3 Hrs.
* Depression and Anxiety is one of the significant mental health conditions as large number of respondents have reported anxiety and depression between 6 to 8 out of scale of 10.
* Effect of Music have a +ve impact on Human mental health. Very few respondents reported –ve impact.
* There is no clear correlation between BPM and Anxiety/Depression.
* Most consistent relationships are between Rock frequency vs depression as the frequency increases, so do the depression rankings.
* Individuals who selected Gospel and Lofi as their favorite genre unanimously find music beneficial.
* Rock has the most diverse range of ages. Classical and Pop listeners also have a wider range of ages compared to other genres. Some music genres, such as K pop and Lofi appear to attract a more specific and younger age group.
* Pandora used by wide range of aged people, whereas young generation inclined towards Apple music and Spotify.

**Variables could have helped in the analysis:**

* Demographics (country, state, etc.) might provide missing and more interesting insights.
* Genre might have changed based on the Country/state.
* What time of the day the respondent listening more could help to understand the mental health.
* What type of industry the respondent is working might have helped to understand the genre of music respondent is listening into.
* Gender of the respondent could bring more interesting insights.
* More instances of data could enrich the analysis.

**Incorrect assumptions:**

* Considered BPM as a variable for the analysis but BPM don’t play a significant role in mental health vs music analysis.
* Scatter plot between age and depression don’t have much significance as the analysis is for mental health vs music not a age vs mental health analysis.

**Challenges:**

* Deciding the outliers in case of age was difficult as 89 years of age is valid and just one respondent was 89 years of age.
* Understanding of all the attributes and it’s significance for analysis was a big challenge as it’s a completely new dataset to analyze and different domain data.
* Need more understanding on regression analysis and different types of testing.
* Understanding of all attributes in dataset.
* Limited knowledge of using various python packages.
* Always trying to co-relate the attributes against the attributes in nsfg dataset.