The dataset chosen is about music and mental health, obtained via [www.kaggle.com](http://www.kaggle.com). The data was collected from over 700 participants who indicated if they were suffering from Anxiety, Depression, OCD or Insomnia, and if they felt an improvement in the condition, after listening to music. Some other important information included is number of hours spent listening to music, favorite genre, frequency of listening to different genres, and a ranking between 1and 10 of the mental health problem (10 being most severe).

This type of analysis would be useful to mental health professionals looking for non-medicinal interventions for those suffering from conditions such as Anxiety, Depression, OCD or Insomnia. Potential clients would be health care workers, social workers, psychologists and teachers or trainers in healthcare field.

The tools used for the project were Python, Jupyter Notebook (with packages pandas, seaborn, matplotlib and stats from scipy), ChatGPT, GitHub, Power Point, Microsoft Word, Excel, and a snipping tool.

Through exploration and analysis of the data set, I pursued answers to the following questions:

1. Does listening to music improve, worsen, or have no effect on mental health problems?
2. Does the amount of time spent listening to music matter?
3. For those suffering from Anxiety at a severity rank 7 or greater, did listening to music correlate with improvement of the problem?
4. Across the different types of genres, how often was each genre listened to? (Frequency)
5. Was there a genre of music correlated with showing the most improvements?

The most commonly shared problem amongst the participants was Anxiety. In light of this, I chose to focus only on the Anxiety condition. Drilling further down into Anxiety, it was discovered that the most common problem with a severity rank of 7 or greater was also Anxiety. Across the entire data set, the act of listening to music was correlated with improvement. Furthermore, the most improvement was seen for those who ranked their anxiety at a 7. I was curious as to what the favorite music genres were (i.e., the music that was listened to the most). The largest category of music listened to was Latin, with Jazz and Rap following for second and third places. However, even though Latin, Jazz, Rap were the favorites (the most listened to overall), the genre that produced the most correlations with improvement for Anxiety was Rock music, with Pop and Metal trailing for second and third places.

If I was presenting this information to a potential client, I would recommend that they consider using the act of listening to Rock music as a valid non-medicinal intervention for those suffering from Anxiety.

For future work, I would like to continue the analysis by comparing Beats Per Minute of Rock, Pop and Metal, (The top 3 producers of improvement) to Beats per Minute of Latin, Jazz and Rap, (the top 3 most listened to genres). Perhaps there’s something about Beats that is really the underlying cause of improvement correlations. I would also like to compare the analysis I ran on Anxiety with the other conditions, Depression, OCD and Insomnia.