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Data Science Programming

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Music and Mental Health

This study examines self reported data from participants regarding their music listening habits and mental health, then analyzes it to look for any correlations that may (or may not) exist. This data has widespread applications, but most notably would be beneficial to a music therapist in assessing the needs of their patients and developing treatment plans.

The dataset is a .csv file that was accessed through the Kaggle website. The data was then imported into Jupyter Notebooks for cleaning, manipulation, analysis, and visualization. The Python packages pandas and matplotlib were utilized throughout. The study began with (but is not limited to) answering the following questions:

1. Does listening to more music in a day correlate to worse mental health?
2. Do certain favorite genres correlate to worse mental health?
3. If someone's favorite genre has a higher average BPM, does that correlate to higher levels of anxiety?
4. Do different age groups tend to favor certain genres?
5. Which mental condition (anxiety, depression, insomnia, OCD) was reported at the highest level? Is music more effective at improving mental health for certain conditions over others?

Some key insights from the study include:

- Fans of Lofi music reported poorer mental health than fans of any other genre.
- Gospel listeners reported much better mental health than other genres, with the exception of insomnia.

- The vast majority of participants listen to music while working, and say that listening to music improves their mental health more than those who don't listen to music while working.

Based on the data and analyses provided, it's likely beneficial to listen to music while taking care of arduous tasks, such as working and studying. Since every Lofi listener reported that they listen to music while working, we can infer that a heavy or stressful workload may be one reason for their worse mental health. It could serve them well to provide additional assistance through these challenges. Gospel music is also a good recommendation for anyone dealing with depression, anxiety, or OCD.

If given the chance, I would like to analyze the relationship between a participant's favorite genre and the amount of hours they spend listening per day. It would be interesting to see if some styles are played for longer periods of time than others, such as during a long study session or work day. Future work on this topic should dive deeper into the 'why'. More information regarding why participants choose certain music styles could provide insight into why they may improve or worsen mental health.