DATA ANALYSIS AND VISUALIZATION-ASSIGNMENT

MUSIC AND MENTAL HEALTH SURVEY RESULTS

1. Introduction

Music is widely regarded as a therapeutic and expressive tool, often used to manage emotions and mental health. This study analyzes the results of a survey conducted among 736 individuals to understand how their music preferences, listening habits, and musical engagement relate to self-reported mental health conditions such as anxiety, depression, insomnia, and OCD.

The objective of this analysis is to uncover patterns between musical engagement and mental well-being and to identify whether certain listening habits or genres are associated with more positive or negative mental health outcomes.

2. Data Description

The dataset mxmh_survey_results.csv contains 736 responses and 33 columns from a music and mental health survey. it includes:

 Demographics & Usage

- Age – Age of the respondent

- Primary streaming service – Platform mainly used (Spotify, YouTube, Apple Music, etc.)

- Hours per day – Hours spent listening to music daily

- While working – Whether they listen to music while working

- Instrumentalist, Composer – If the person plays an instrument or composes

Music Preferences

- Fav genre – Favorite music genre (Pop, Rock, Hip hop, Lofi, etc.)

- Exploratory, Foreign languages – Whether they explore new music and listen to songs in other languages

- BPM – Average beats per minute of music they listen to

Listening Frequency by Genre

Frequency levels per genre (e.g., Frequency [Jazz], Frequency [Pop]) such as:

- Never

- Rarely

- Sometimes

- Very frequently

Mental Health Measures

- Anxiety, Depression, Insomnia, OCD – Self-reported scales (likely from 0 to 10)

- Music effects – How music affects their mental health (e.g., "Improve", "No effect")

3.Key Findings

Music & Mental Health:

- Respondents generally report that music improves their mental health.
- Higher listening durations are commonly associated with higher reported levels of anxiety, insomnia, and depression.

Popular Genres:

- Genres like Pop, Lofi, Rock, and Hip hop appear frequently.
- Lofi and Classical are often associated with relaxation or focus and might correlate with lower anxiety scores.

Listening Behavior:

- Most users listen to music 1–4 hours daily, often while working.
- Respondents who are also instrumentalists or composers might exhibit higher emotional connection to music.

4.Key Visualizations & Insights

Visualizations and their Insights:

Visualization	Insight
Histogram (Hours/Day)	Most people listen to music for 2–4 hours daily.
Bar Graph (Favorite Genres)	Pop, Rock, and Lofi are the top preferred genres.
Boxplot (Genre vs. Mental Health)	Lofi, Jazz, and Classical listeners tend to have lower anxiety/depression scores.
Pie Chart (Music Effect)	Majority say music "Improves" their mental health.

Seaborn Features Used:

- sns.histplot() with KDE curves.

- sns.countplot() for genre frequency.

- sns.boxplot() to compare genres vs. mental health scores.