

Music & Mental Health

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Project Overview

Analyzing correlations between music genres, frequency of listening, and mental health trends for 2022.

We chose this project because there is a rise in mental health issues. We wanted to know if music has any effect on your mental health based on frequency and genre.

For ease of interpretation, we identified three genres to analyze: Lofi, Hip hop and Rock.

Goals/Questions Answered

- Does listening to music impact Anxiety, Depression, Insomnia and OCD?
- Does the type of music make a difference on your mental health?
- Which genres facilitate increased Anxiety, Depression, Insomnia and OCD?
- Does BPM impact increased mental illness?
- From these correlations what is the average age of people listening to these genres?

Data Collection

The data used in this project was sourced from Kaggle. We would like to acknowledge and thank the following dataset author: [Catherine Rasgaitis](#)

This dataset contains survey responses related to mental health and music preferences. We used this dataset to analyze the correlations between favorite music genres and mental health conditions.

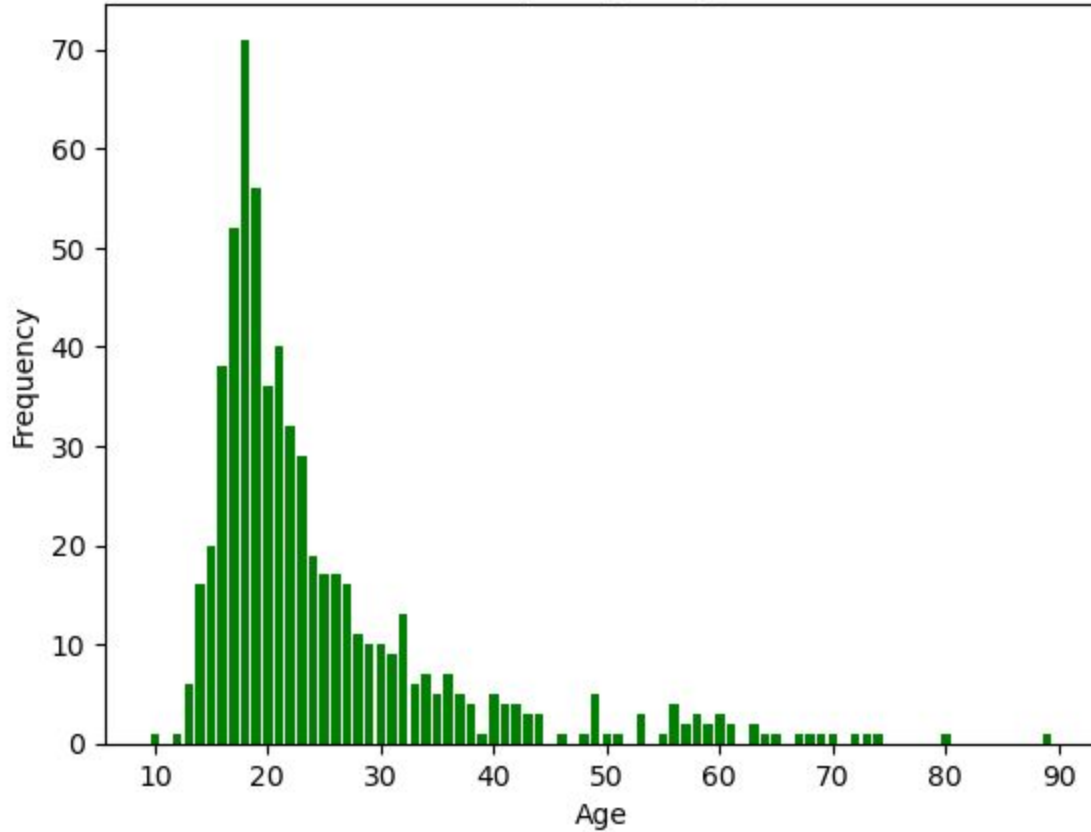
Cleanup & Exploration

- Data type analysis
- Removed duplicates and NaN values
- Removed timestamps
- Highlighted statistical averages using mean
- Data visualization using scatter plots & bar graphs
- Correlation analysis of mental health conditions between age, BPM, hours per day

Approach

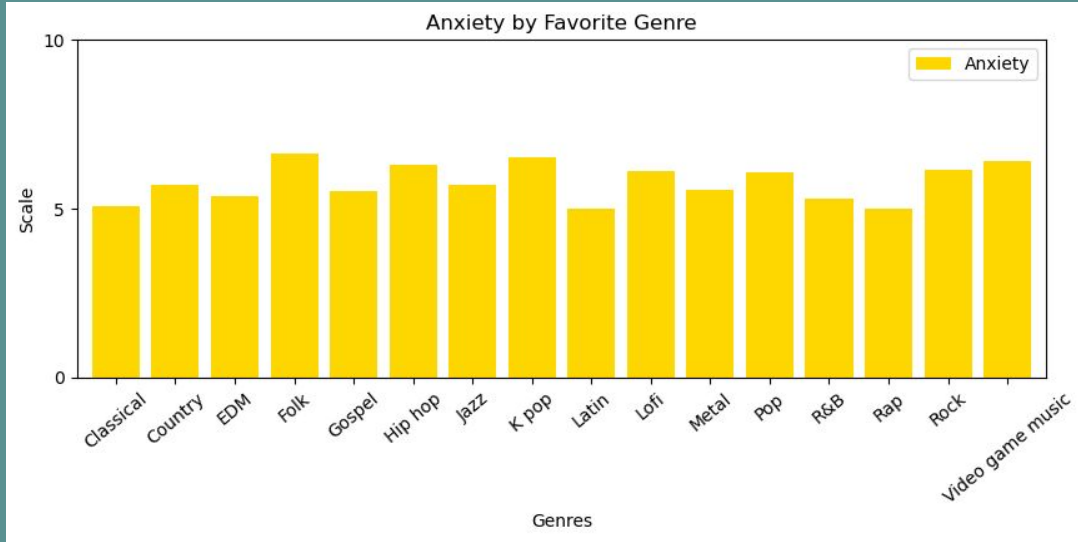
- Created an outline delegating tasks
- Identified project manager
- Daily objectives
- Time managements
- Overcame blockers with root cause analysis
- Daily stand ups and daily stand downs
- Project manager oversight for corrections, organization and ensured accuracy content

Frequency of Age



While the average age from those who took part in this survey is 24.79, you can see there was a wide range from people as young as 10 and as old as 89 years old.

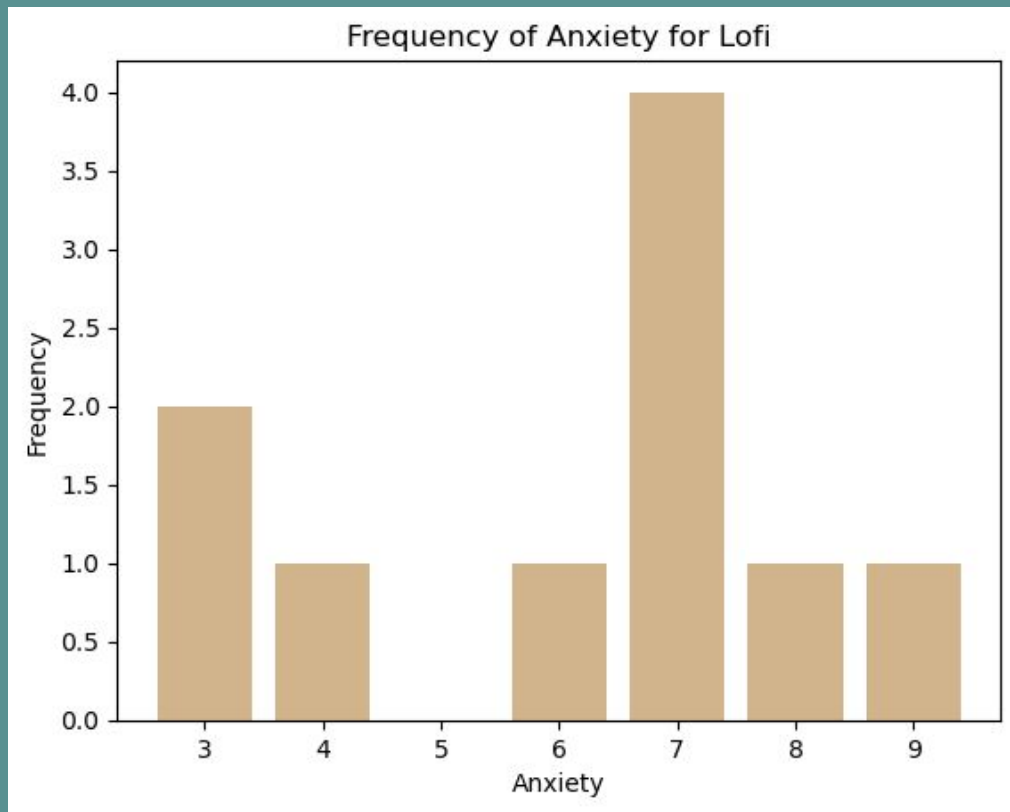
Result/Conclusion for Anxiety



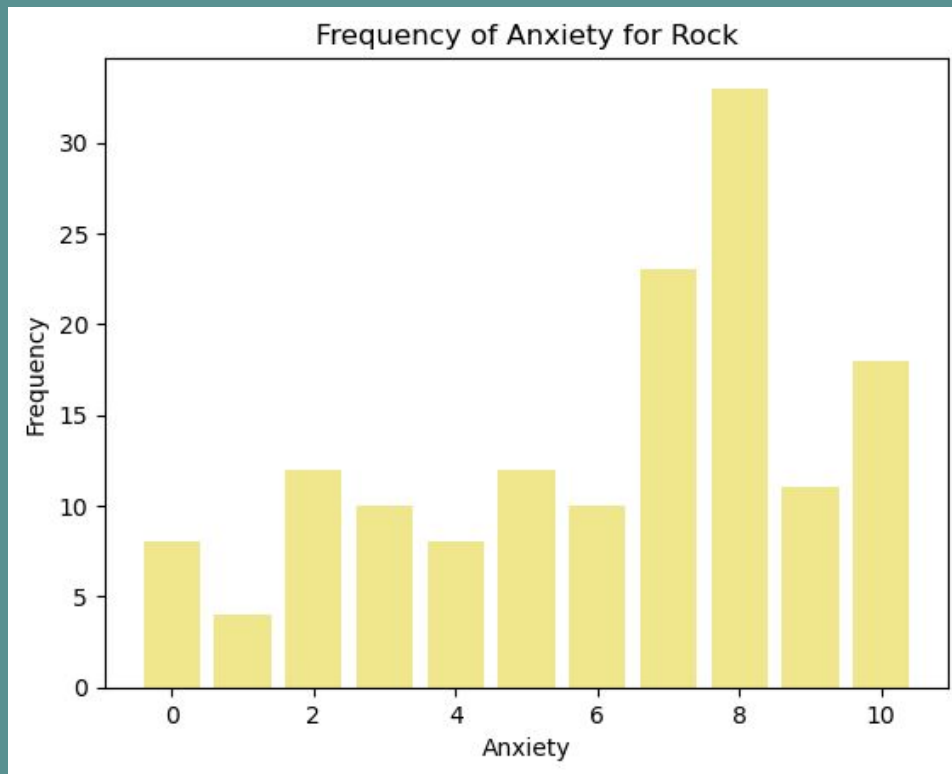
Of the three genres, we evaluated, the Lofi genre showed the most correlation with Anxiety, BPM, hours per day and age.

However, the sample size for Lofi isn't robust enough to draw meaningful conclusions.

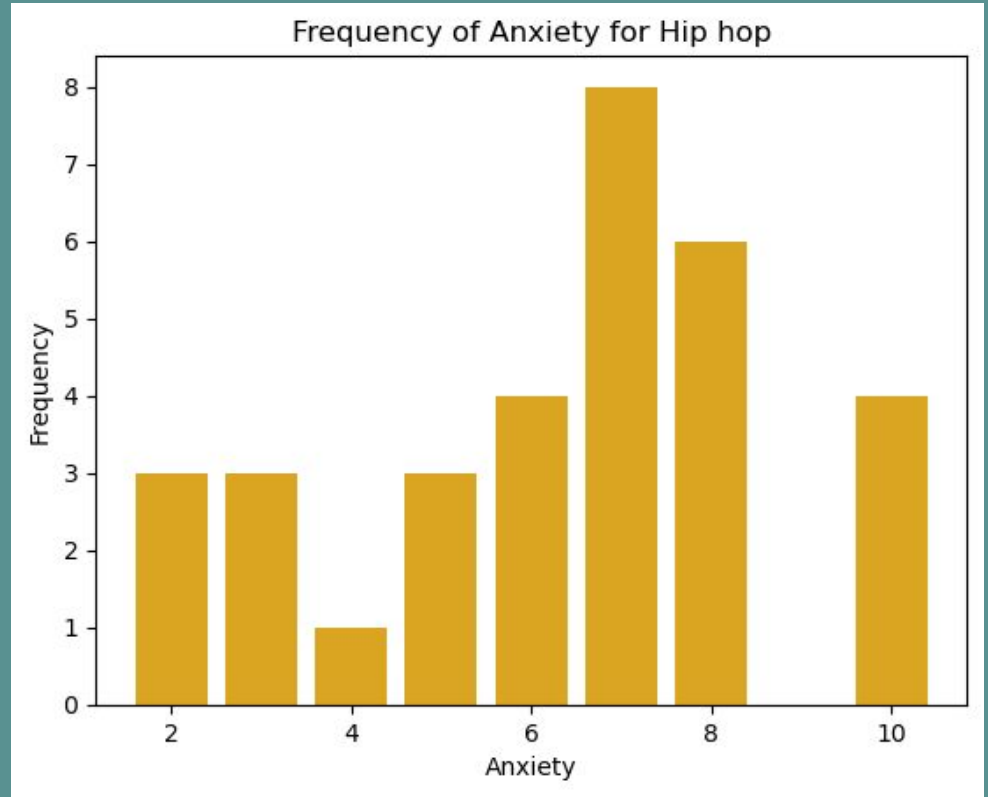
Anxiety Conclusion



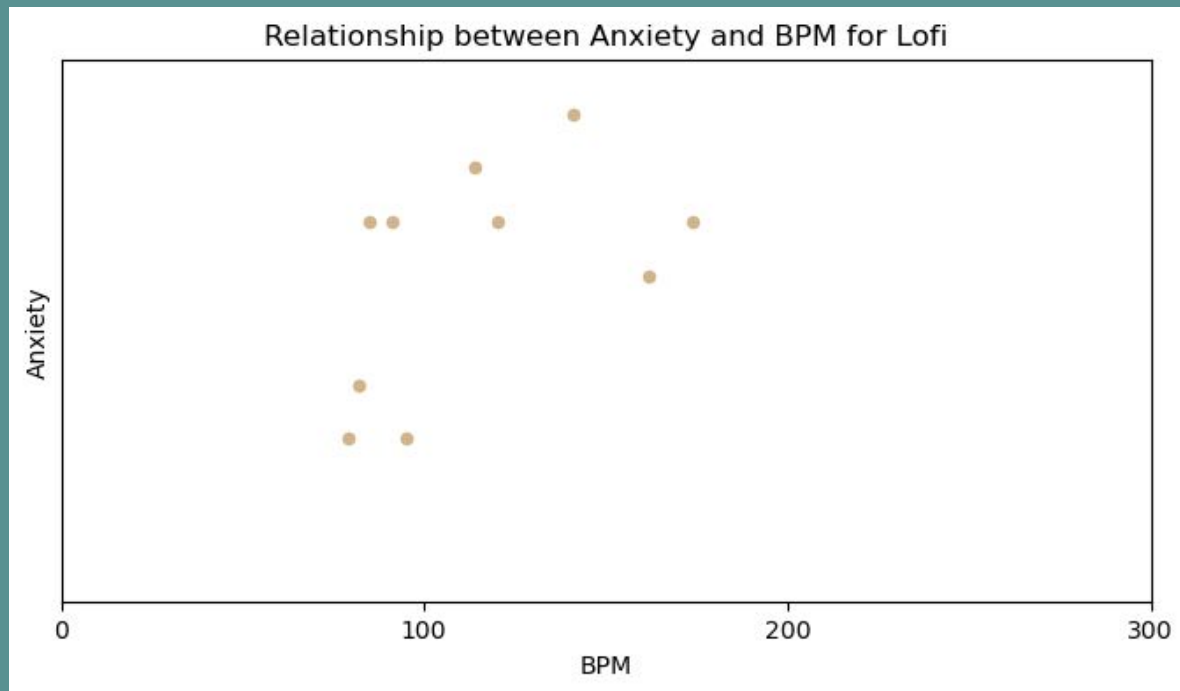
Anxiety Conclusion



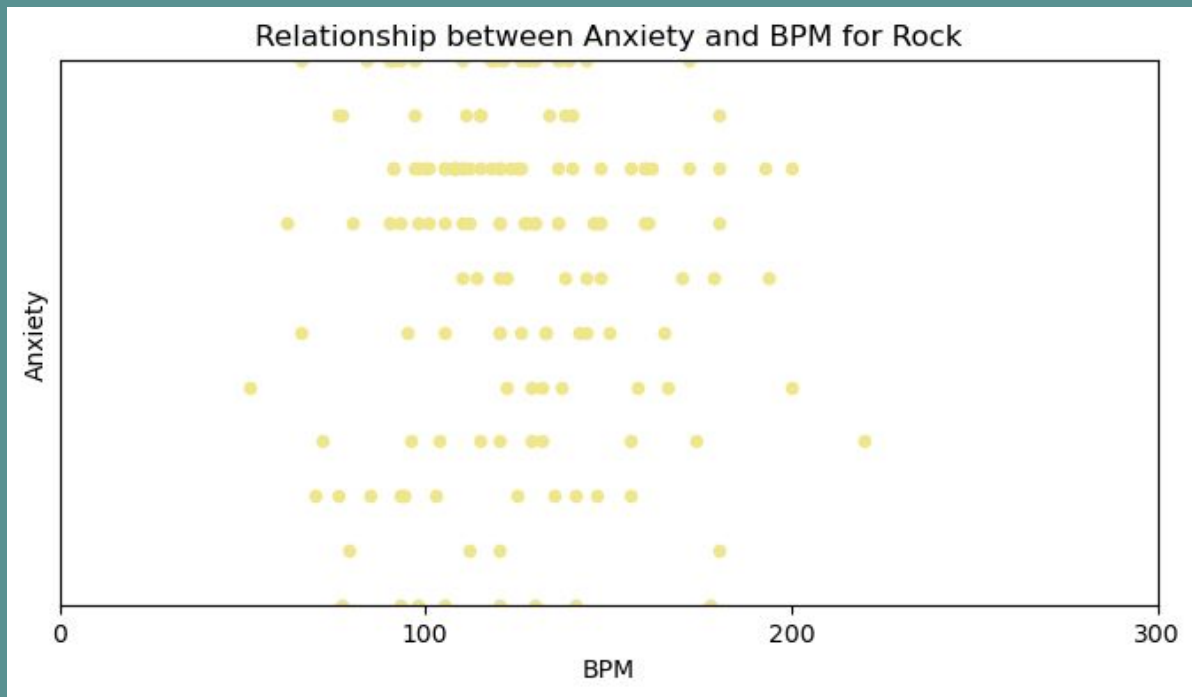
Anxiety Conclusion



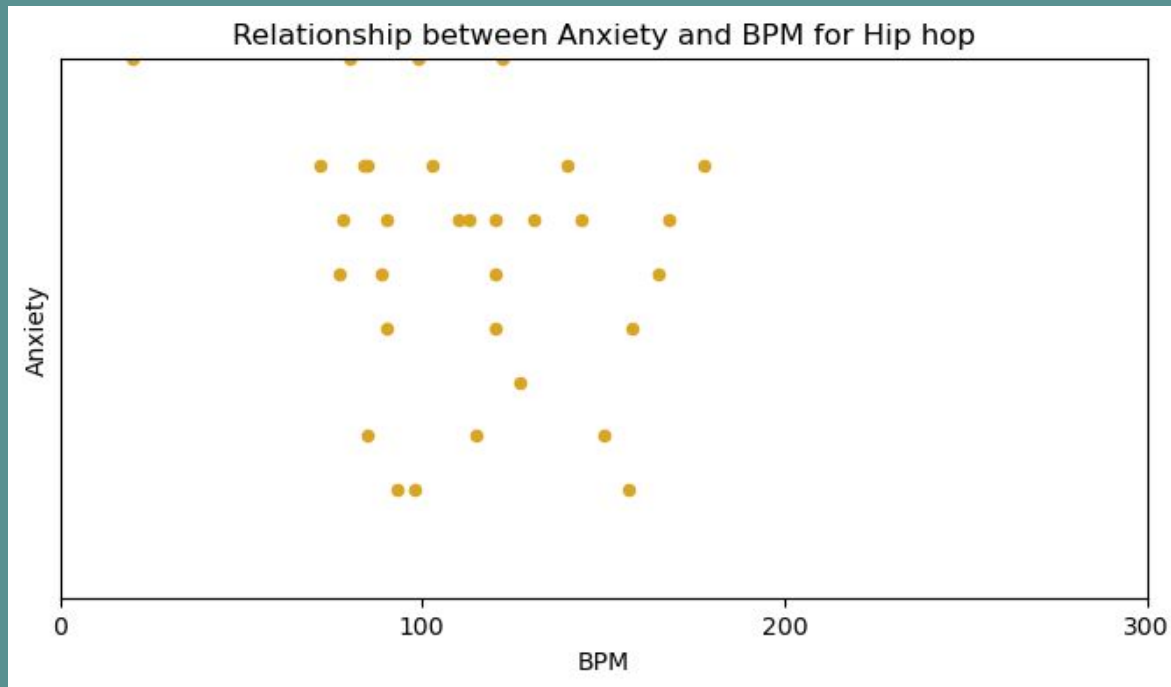
Anxiety Conclusion



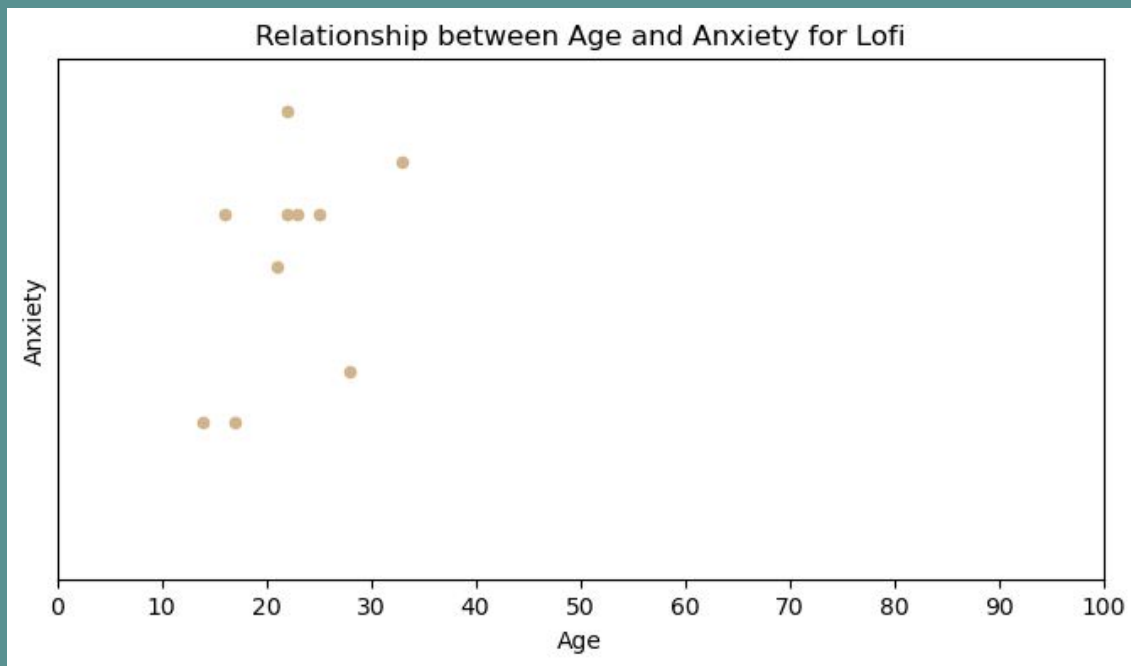
Anxiety Conclusion



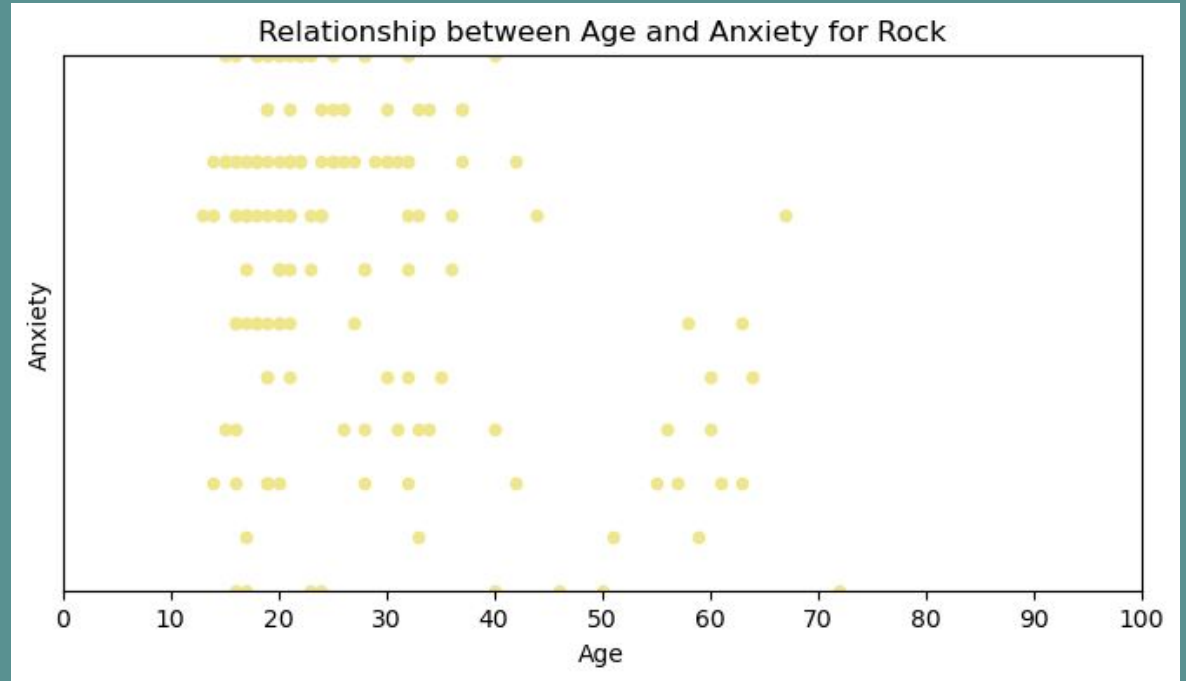
Anxiety Conclusion



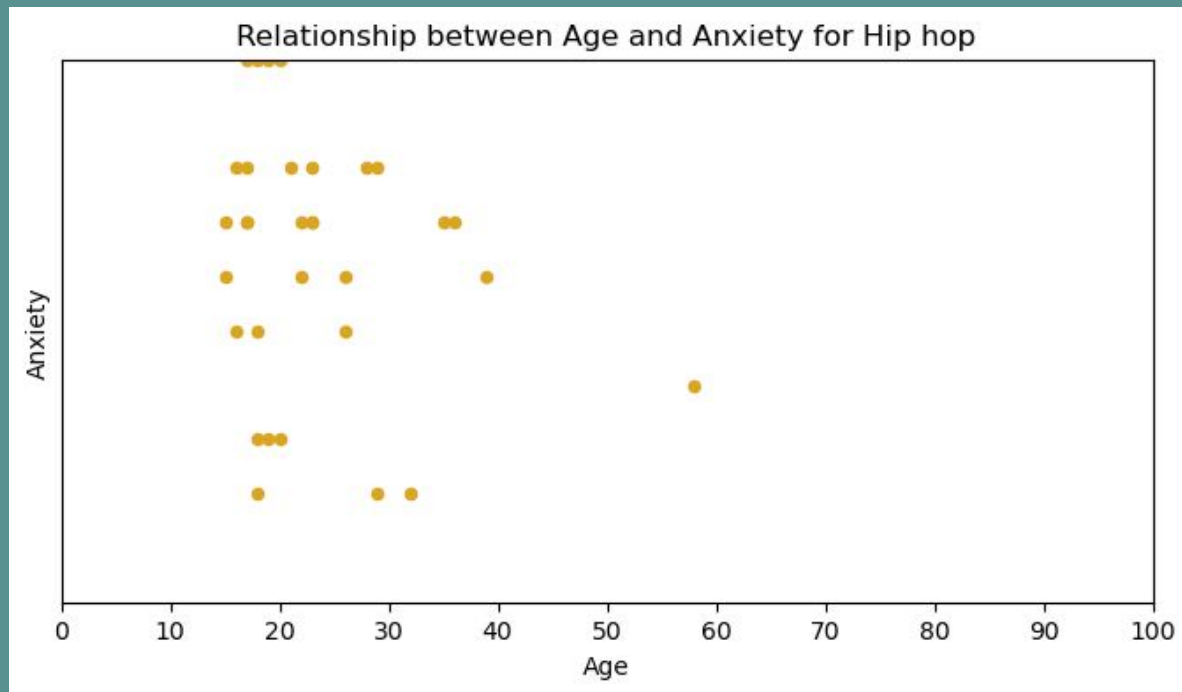
Anxiety Conclusion



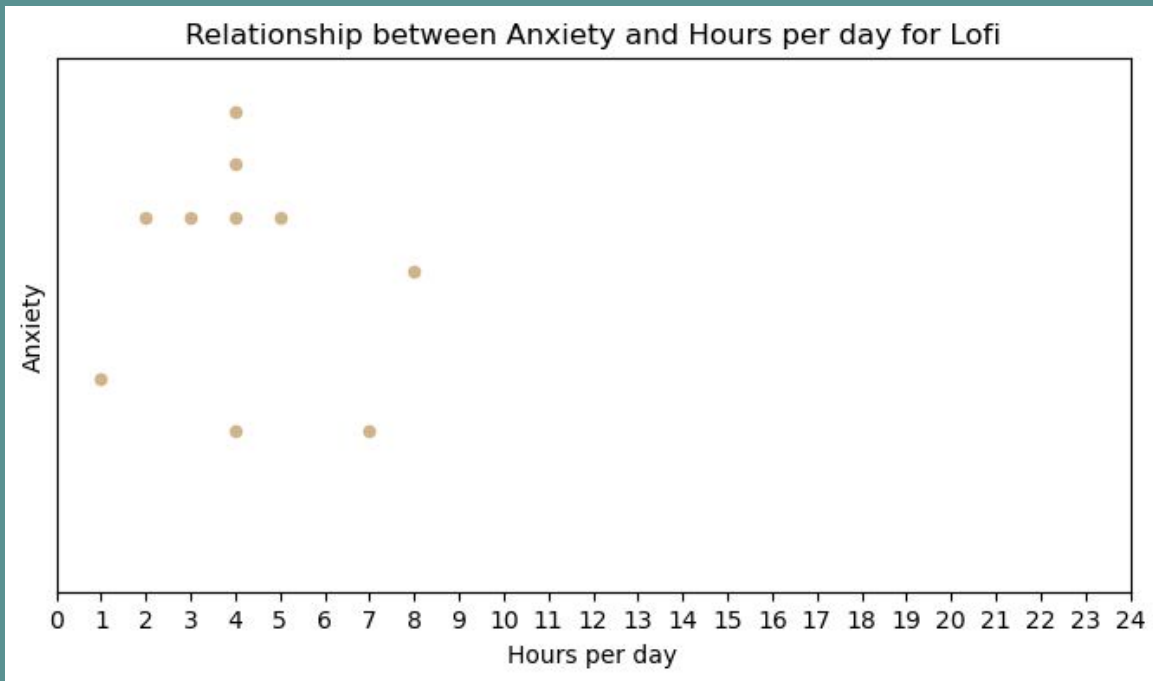
Anxiety Conclusion



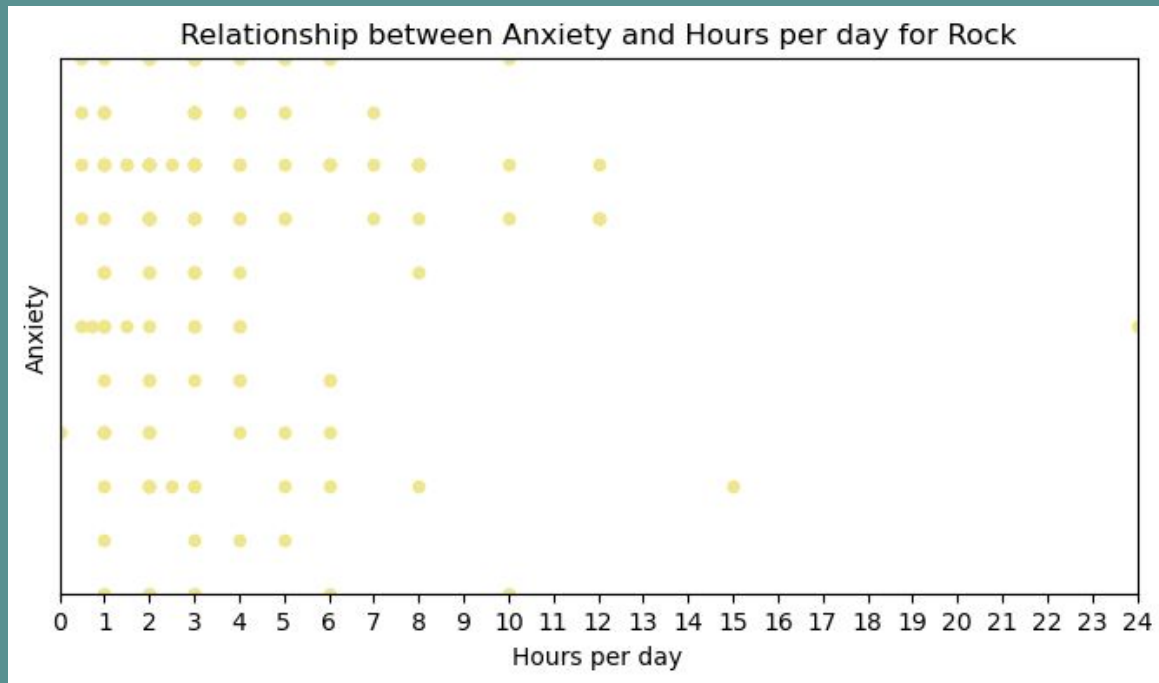
Anxiety Conclusion



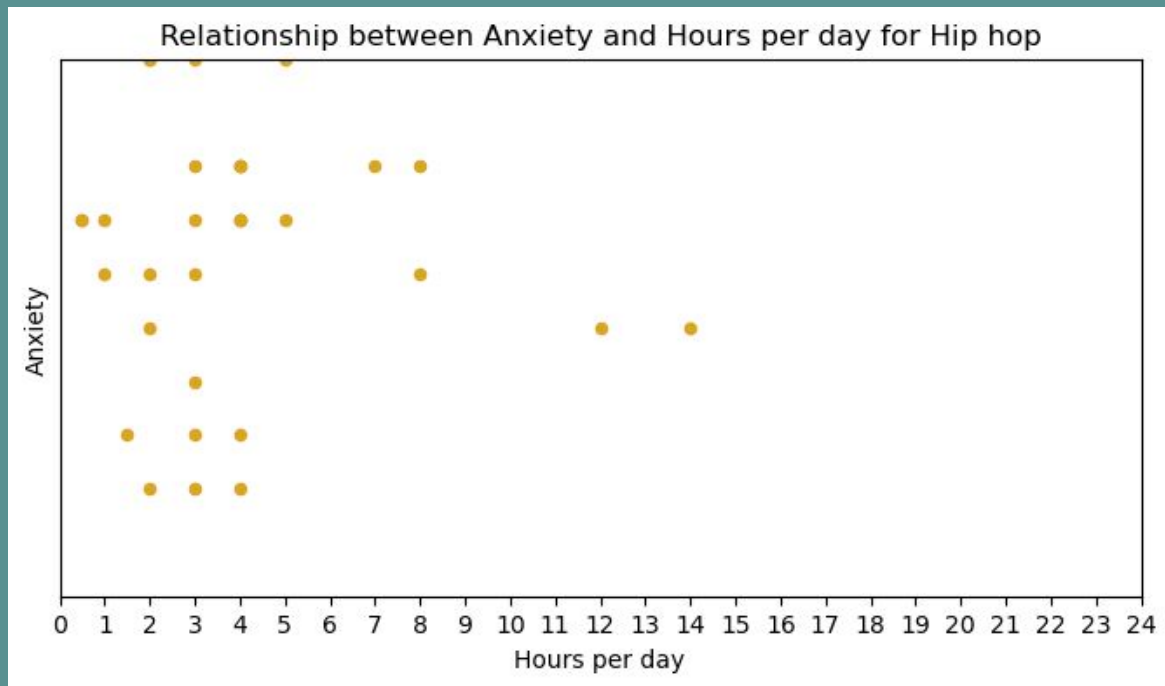
Anxiety Conclusion



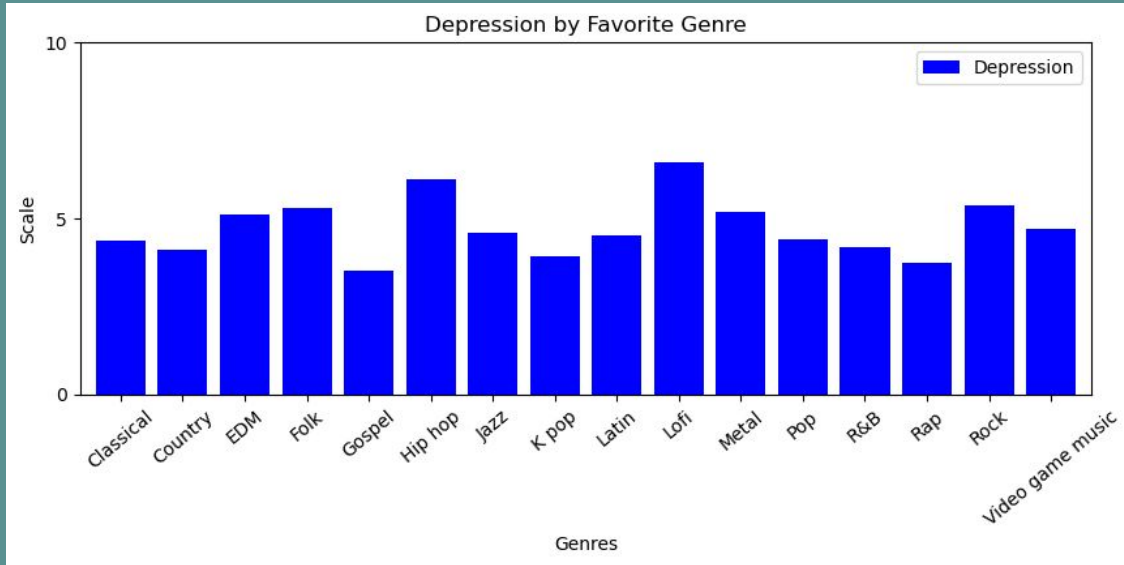
Anxiety Conclusion



Anxiety Conclusion



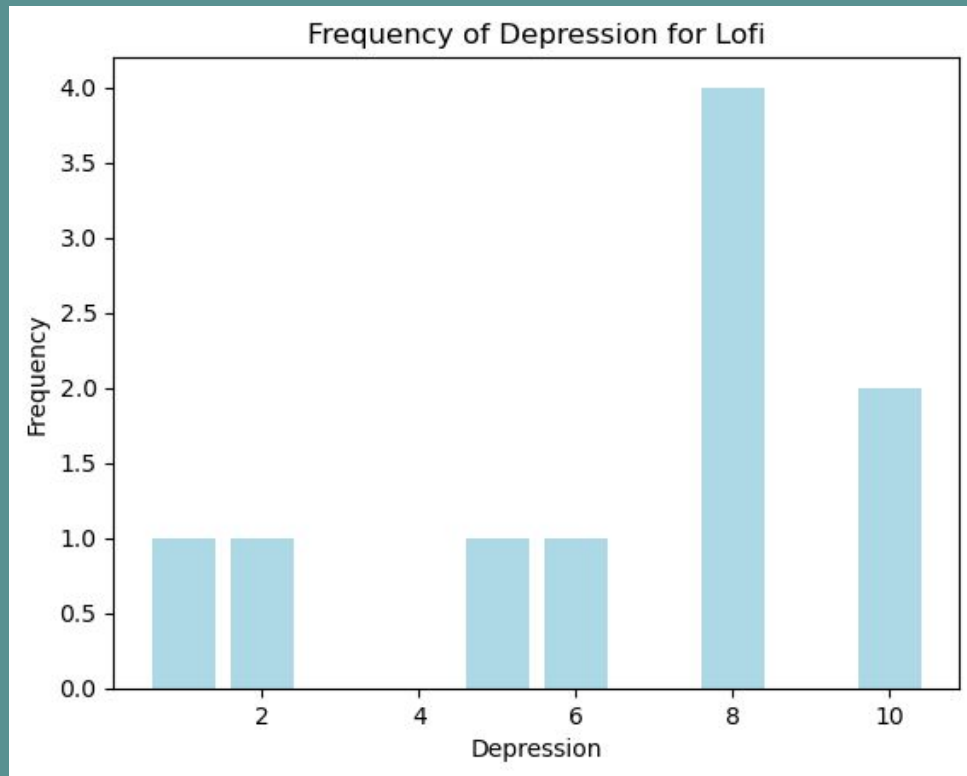
Results/Conclusion for Depression



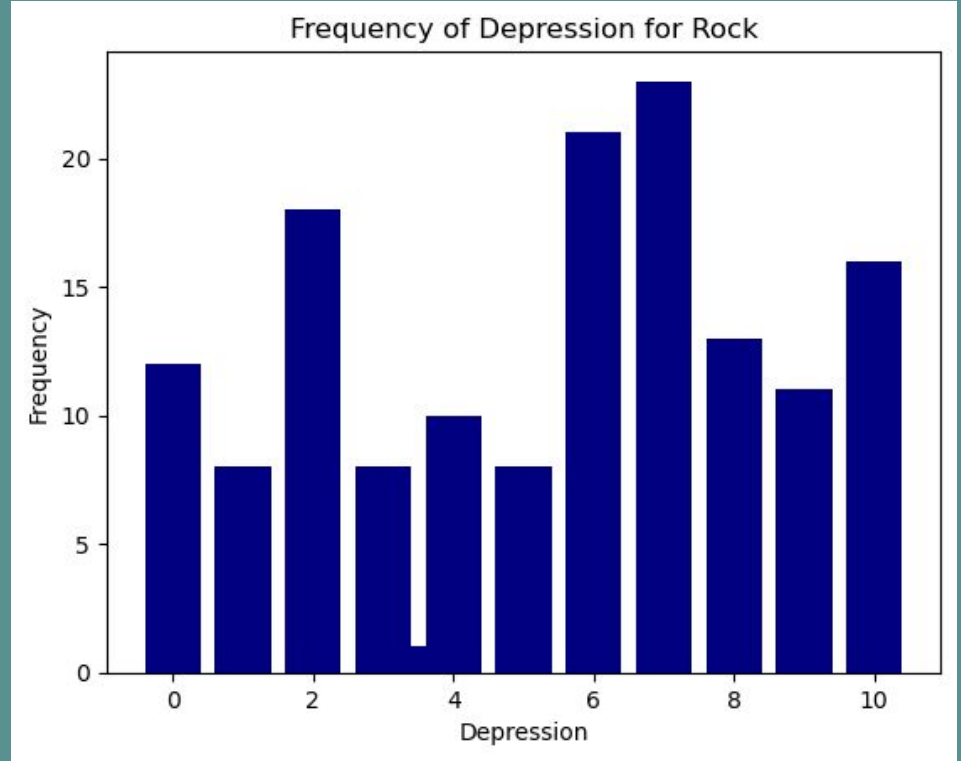
Of the three genres Lofi had the highest average with Depression.

Our initial hypothesis was that slower music would have a higher indication of depression.

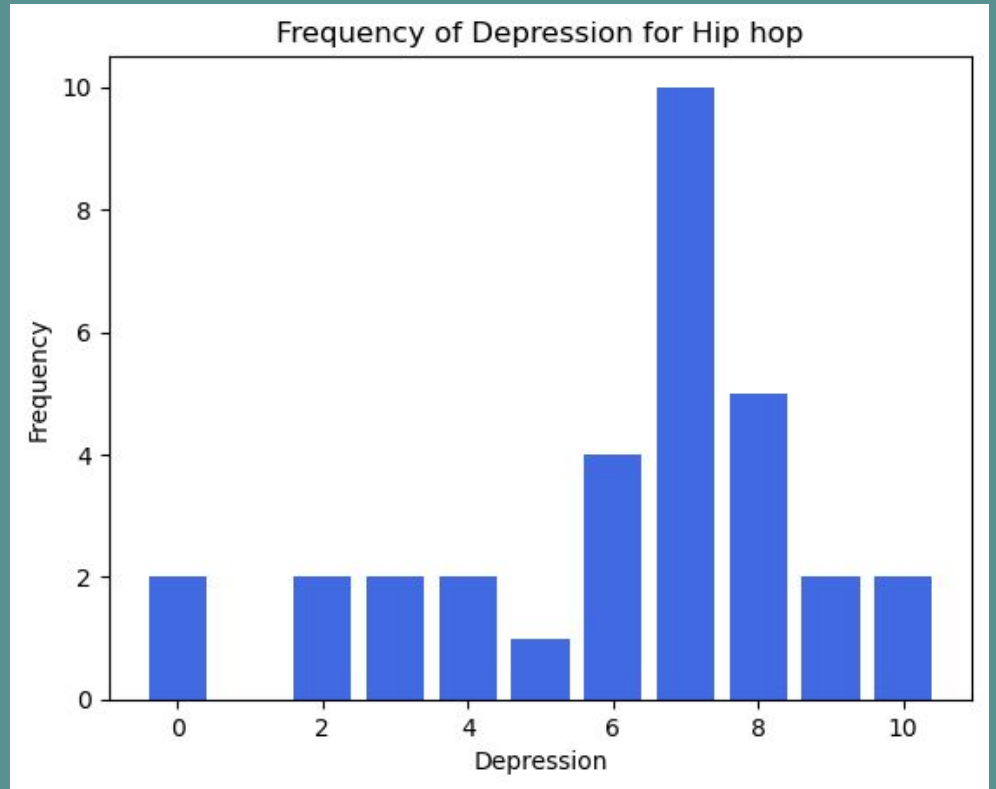
Depression Conclusion



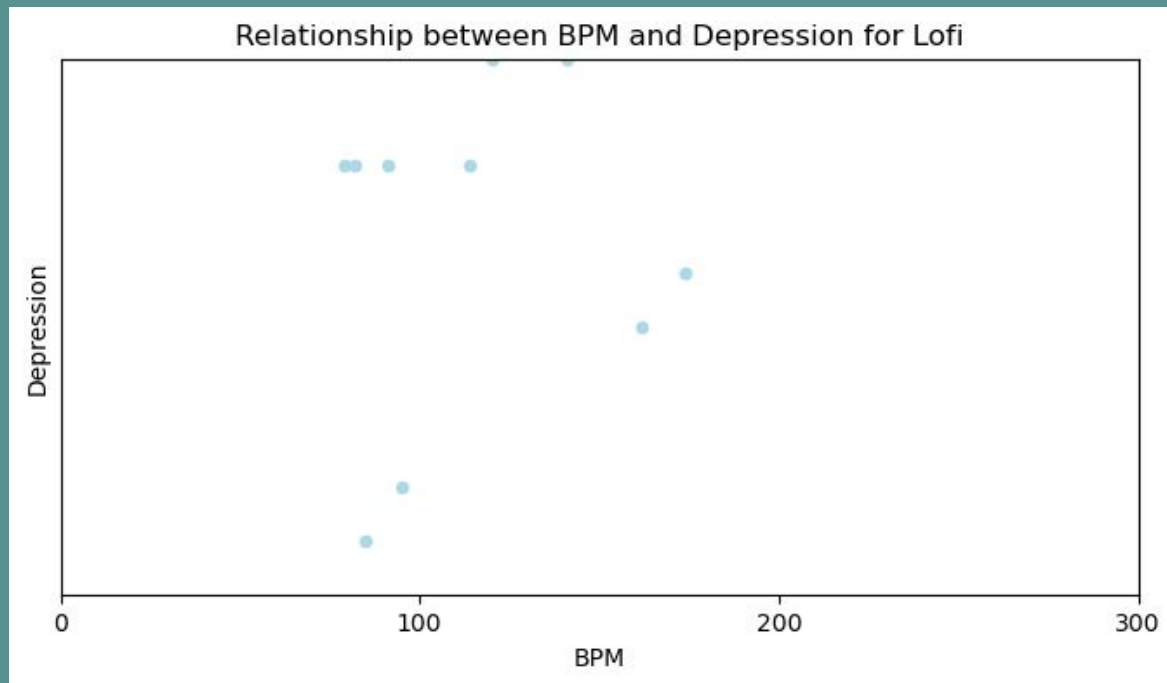
Depression Conclusion



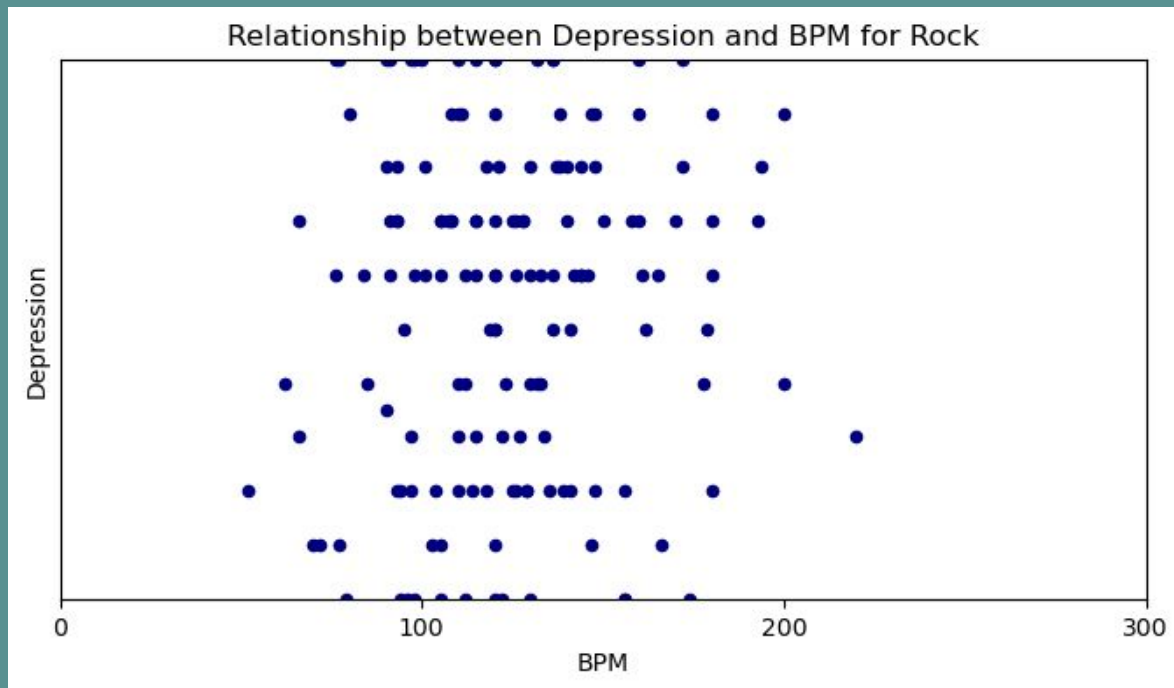
Depression Conclusion



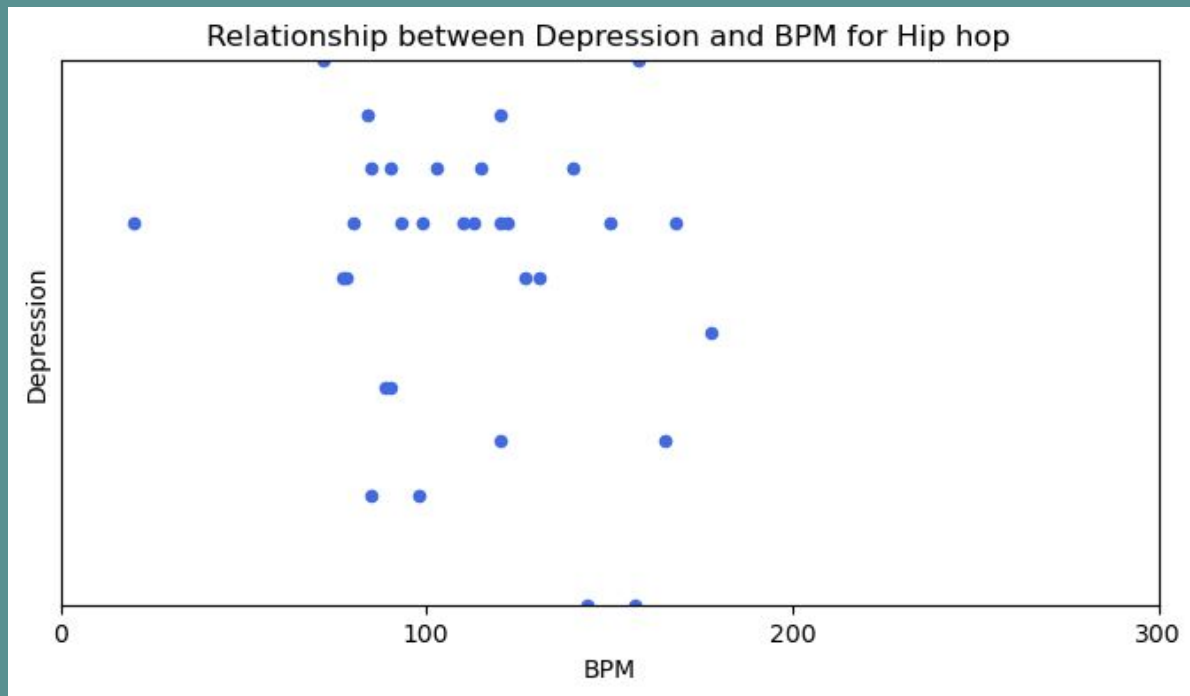
Depression Conclusion



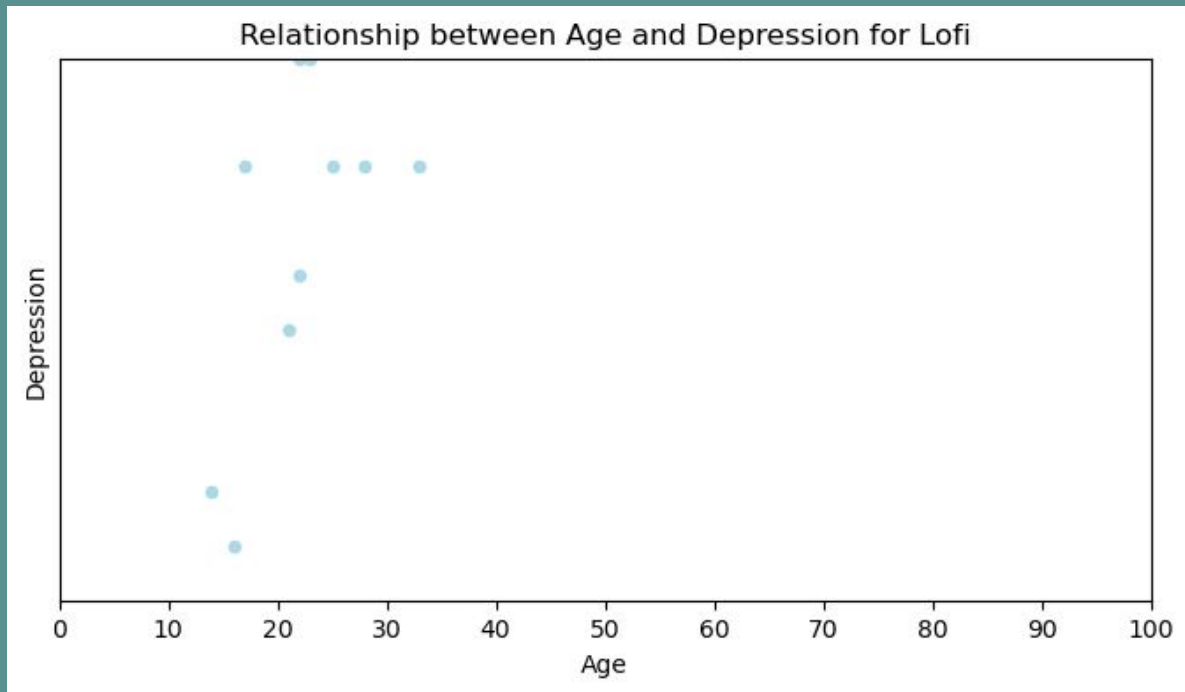
Depression Conclusion



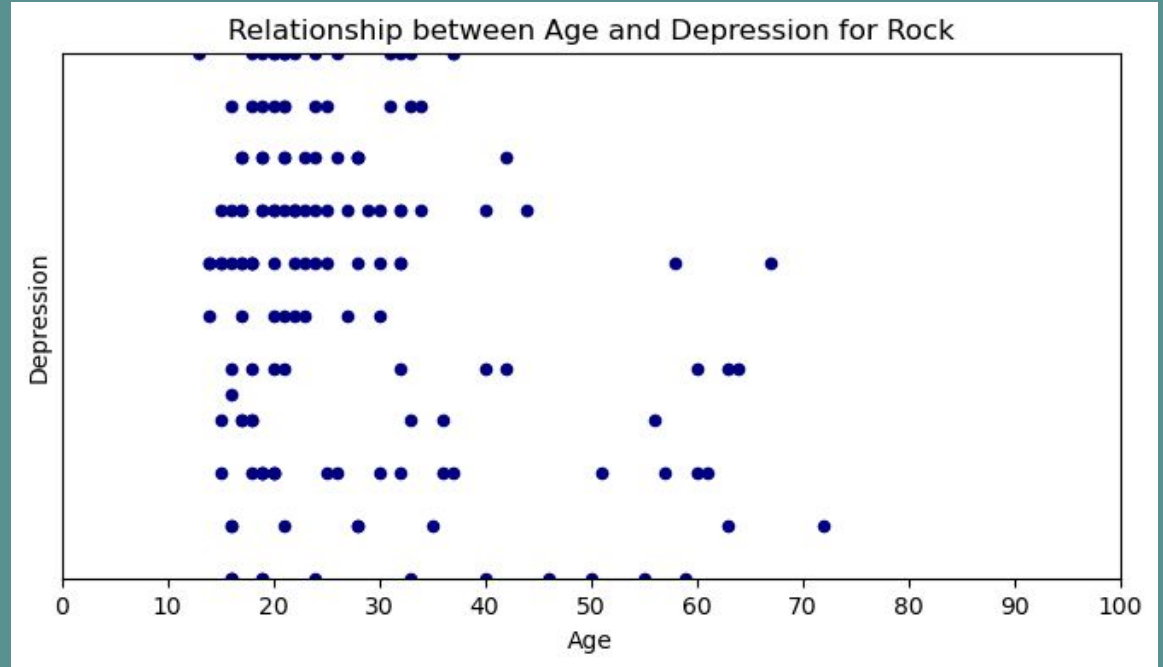
Depression Conclusion



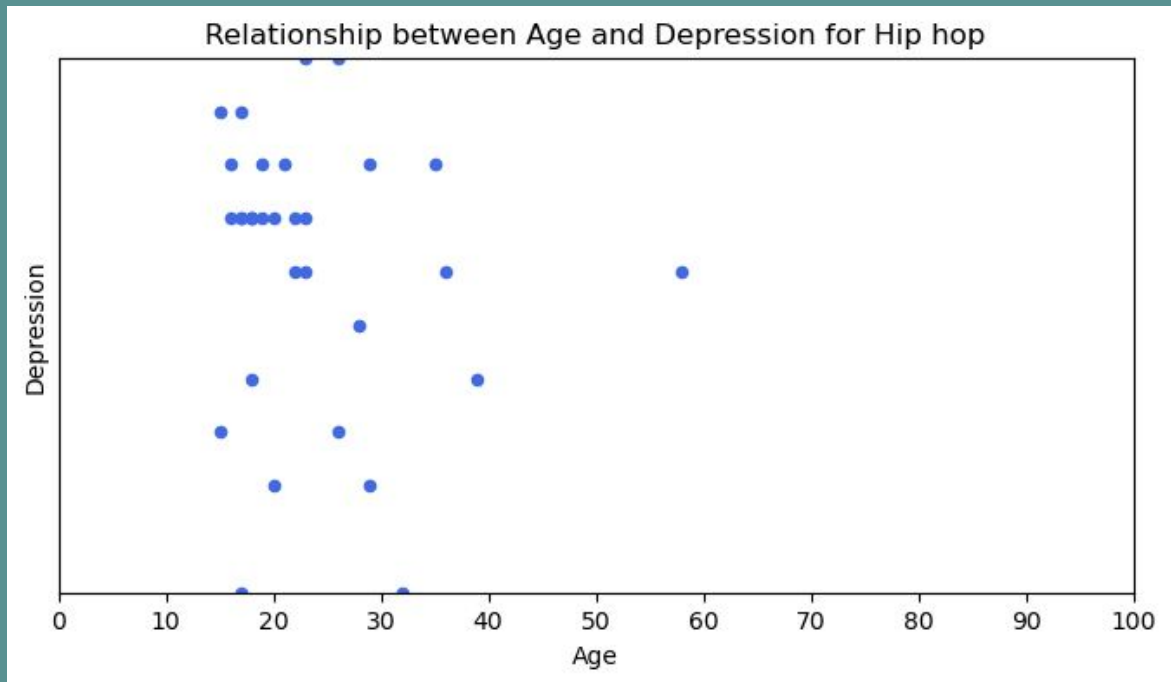
Depression Conclusion



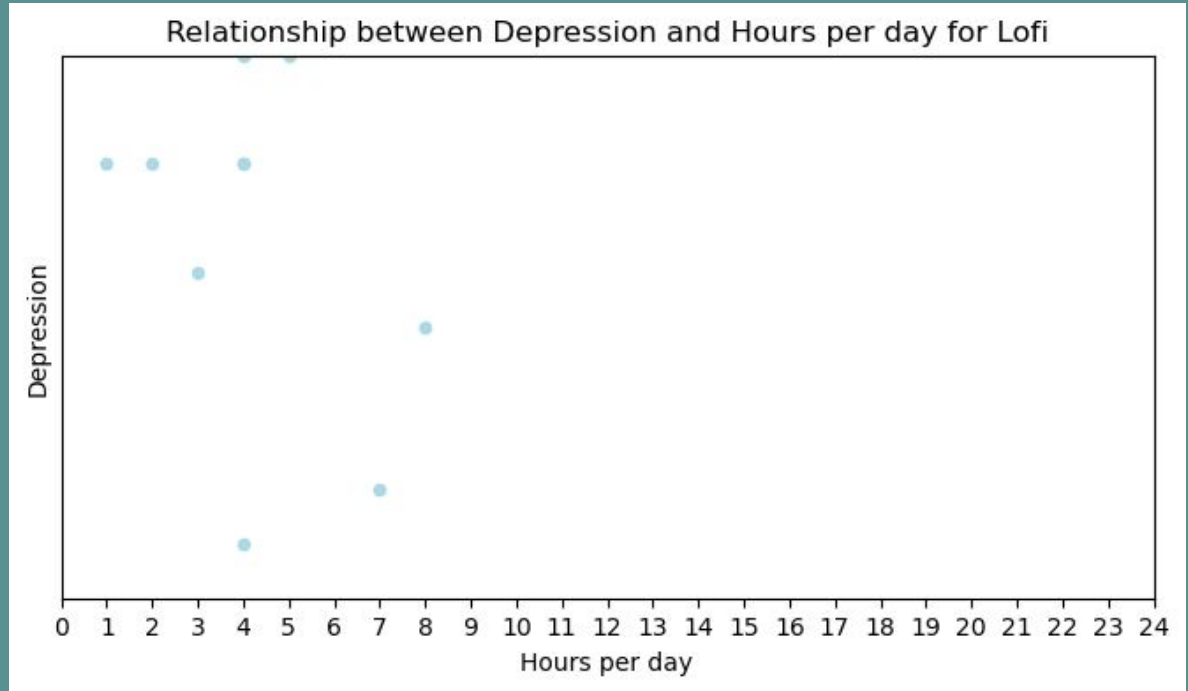
Depression Conclusion



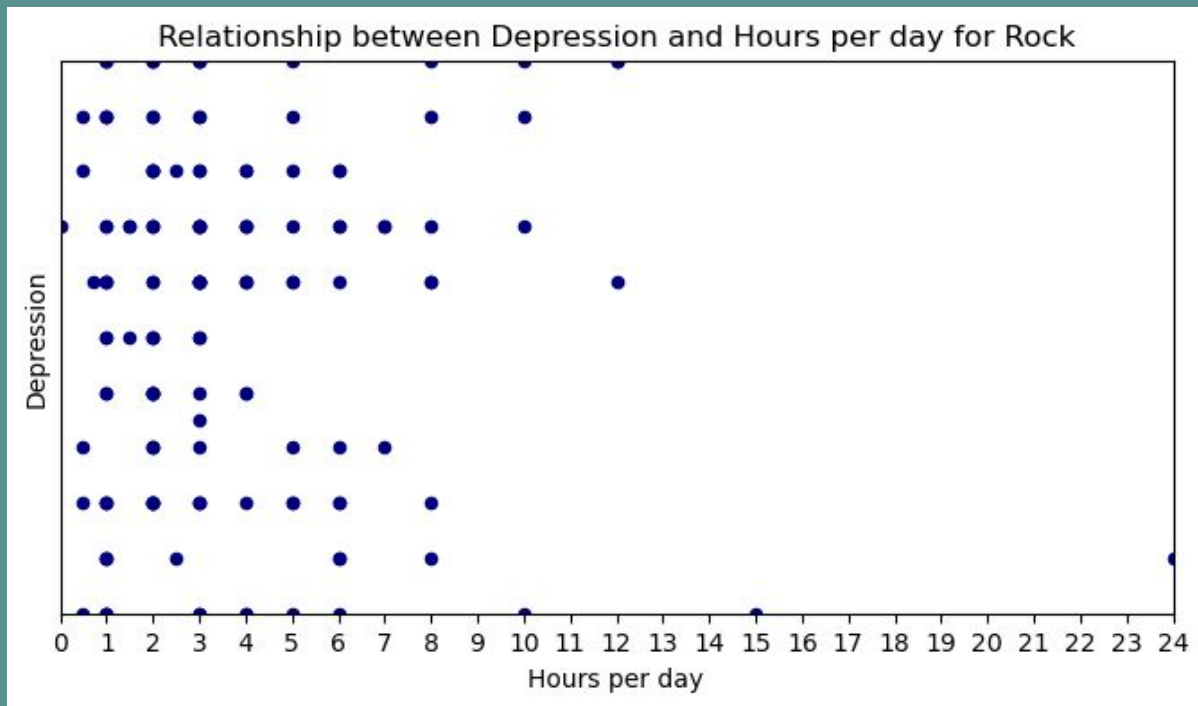
Depression Conclusion



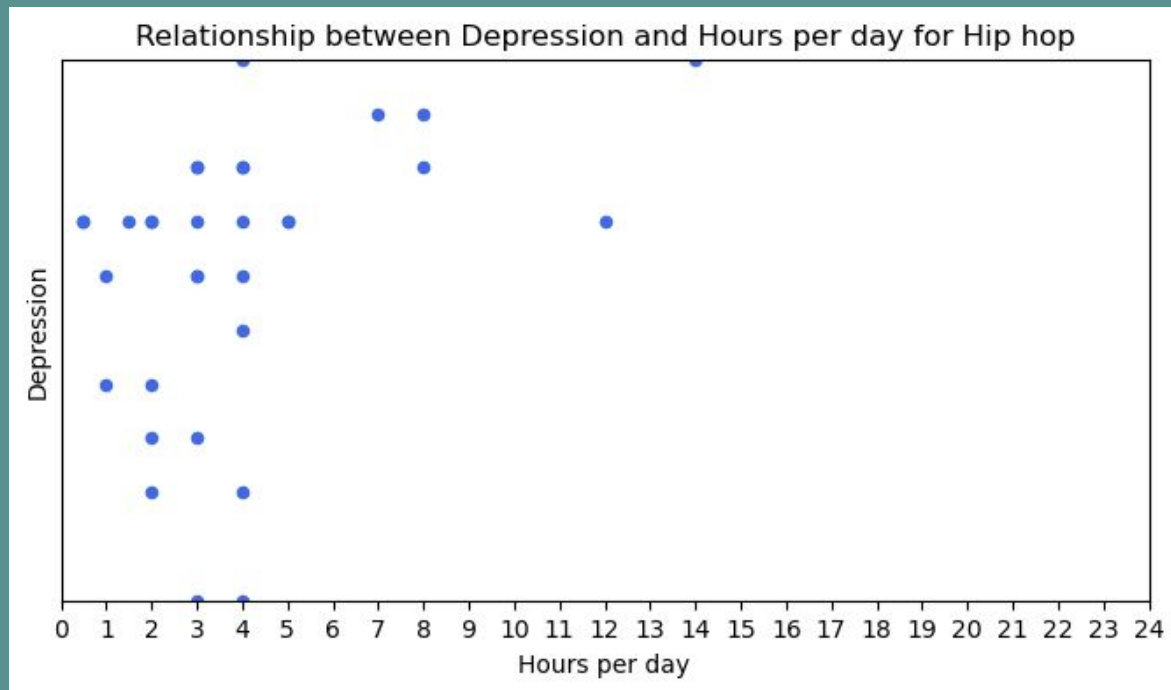
Depression Conclusion



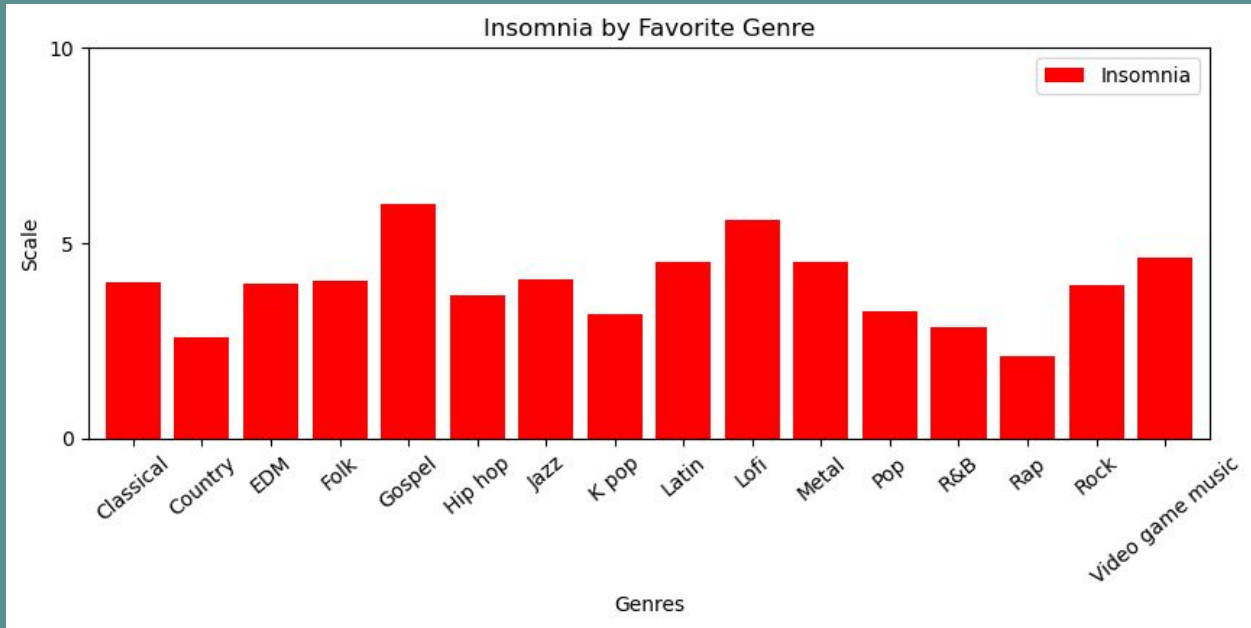
Depression Conclusion



Depression Conclusion



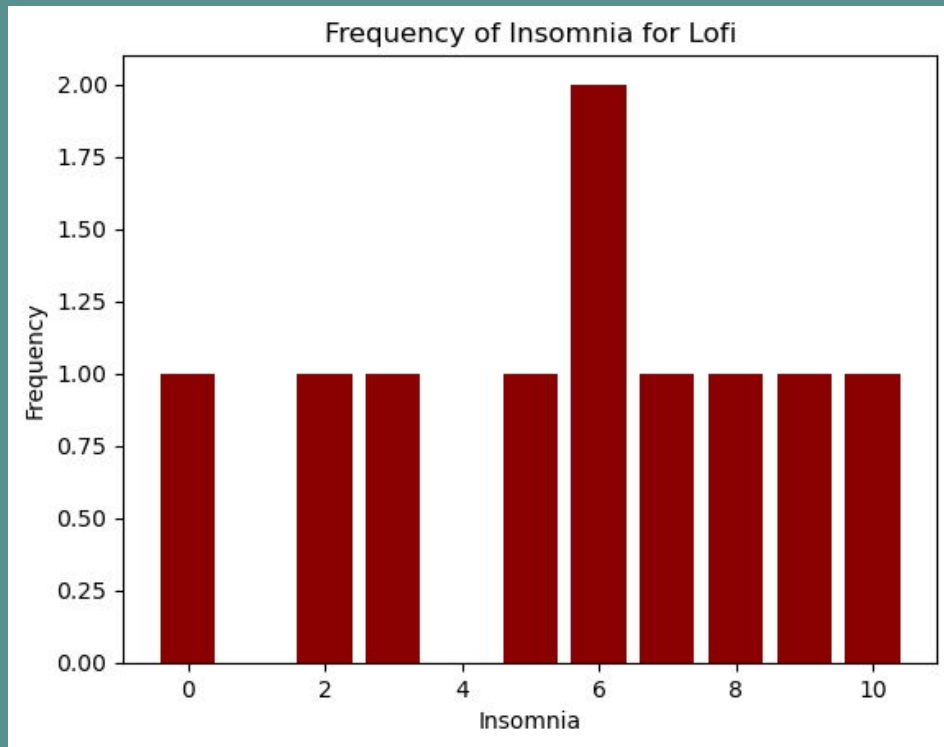
Insomnia Conclusion



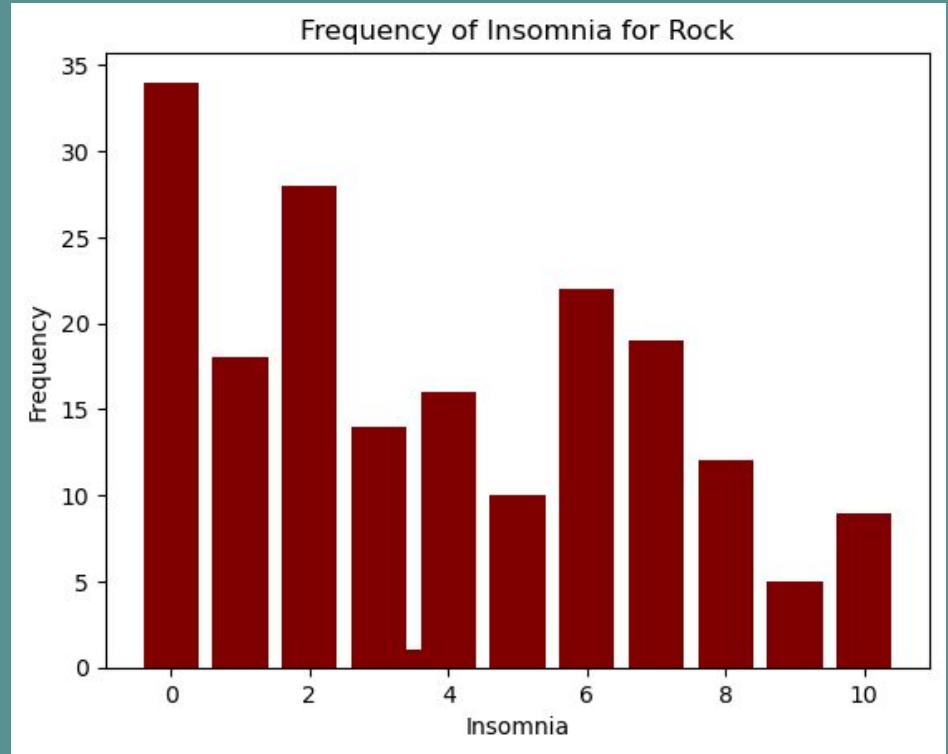
Of the three genres, Lofi depicted the most Insomnia occurrence.

Contrary to our initial hypothesis, Gospel was the second highest linked genre.

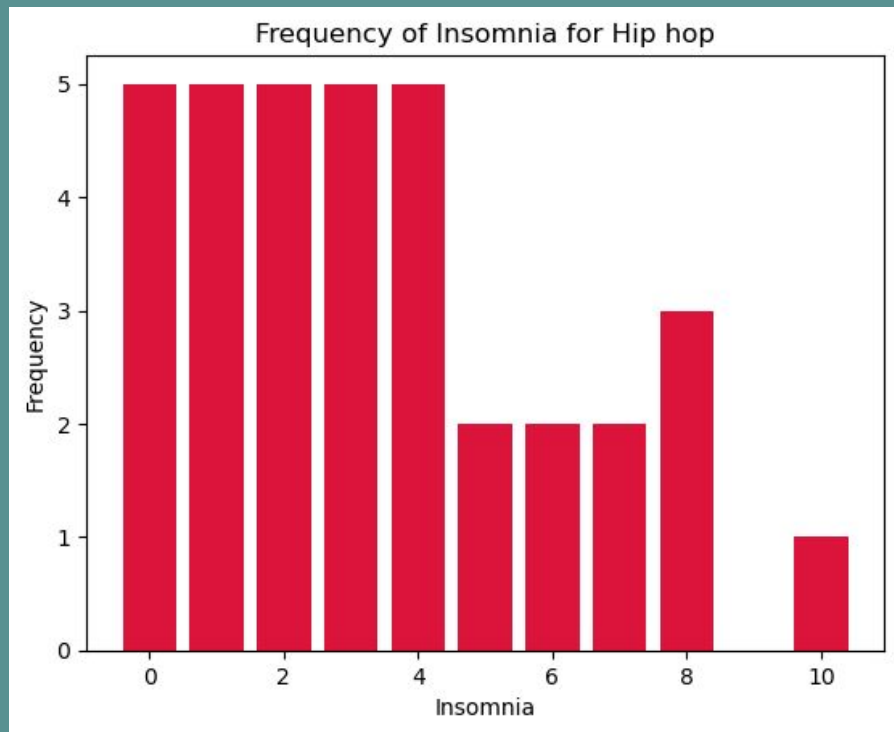
Insomnia Conclusion



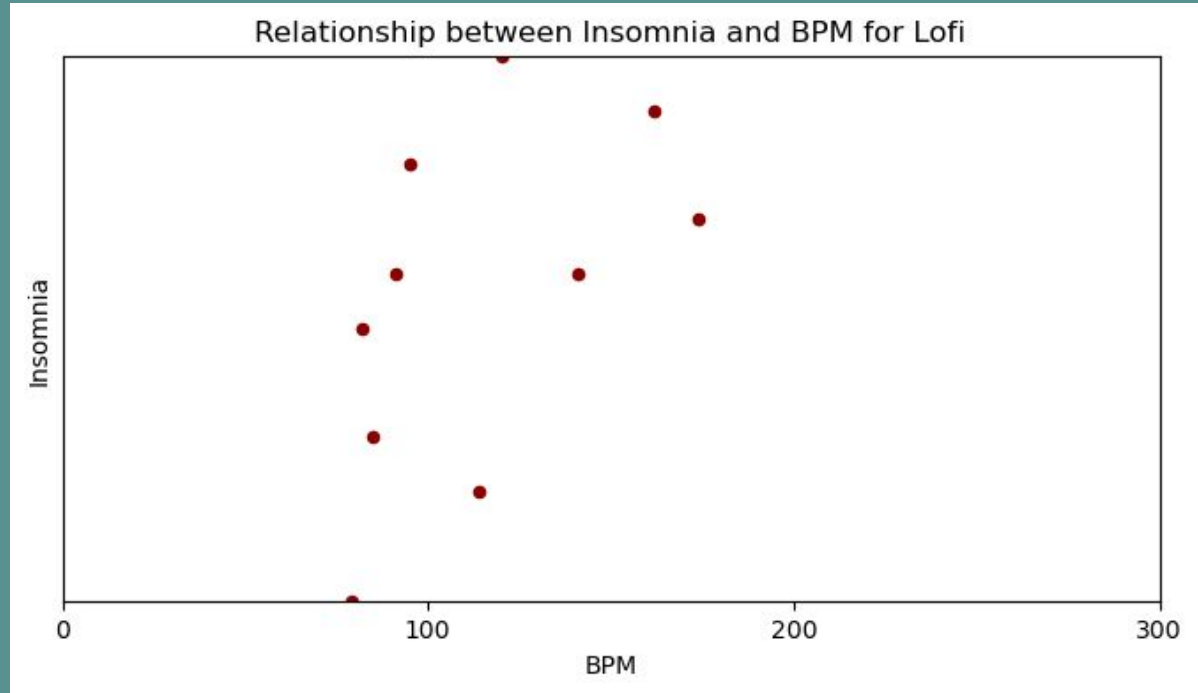
Insomnia Conclusion



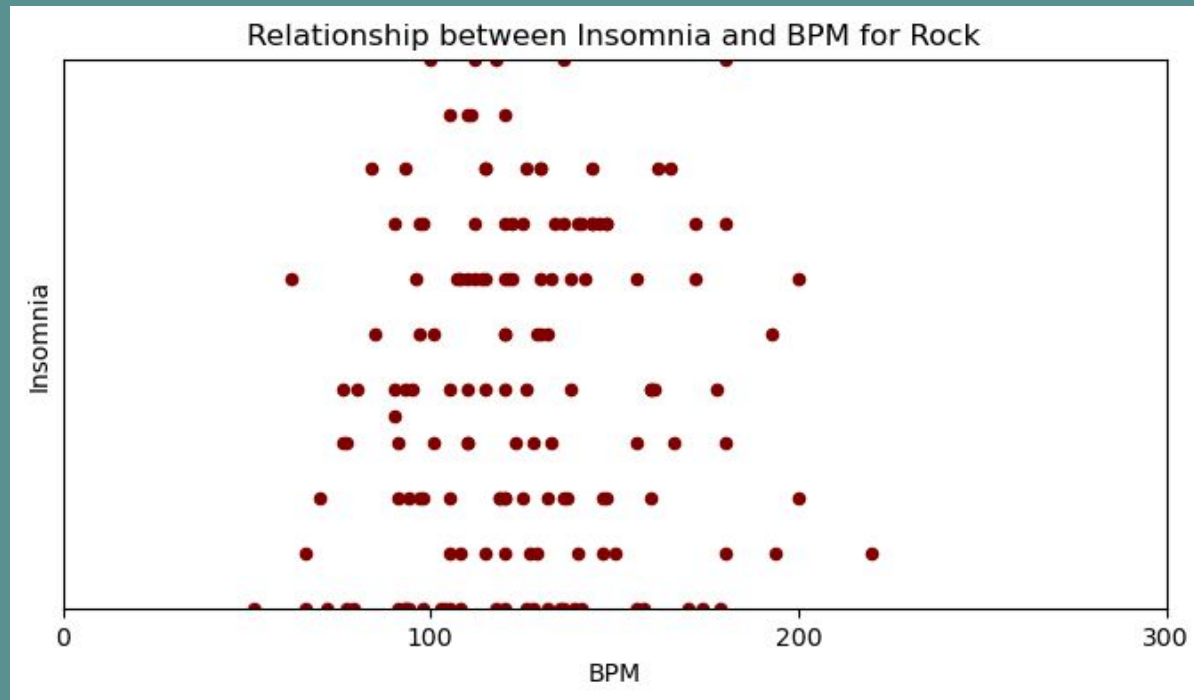
Insomnia Conclusion



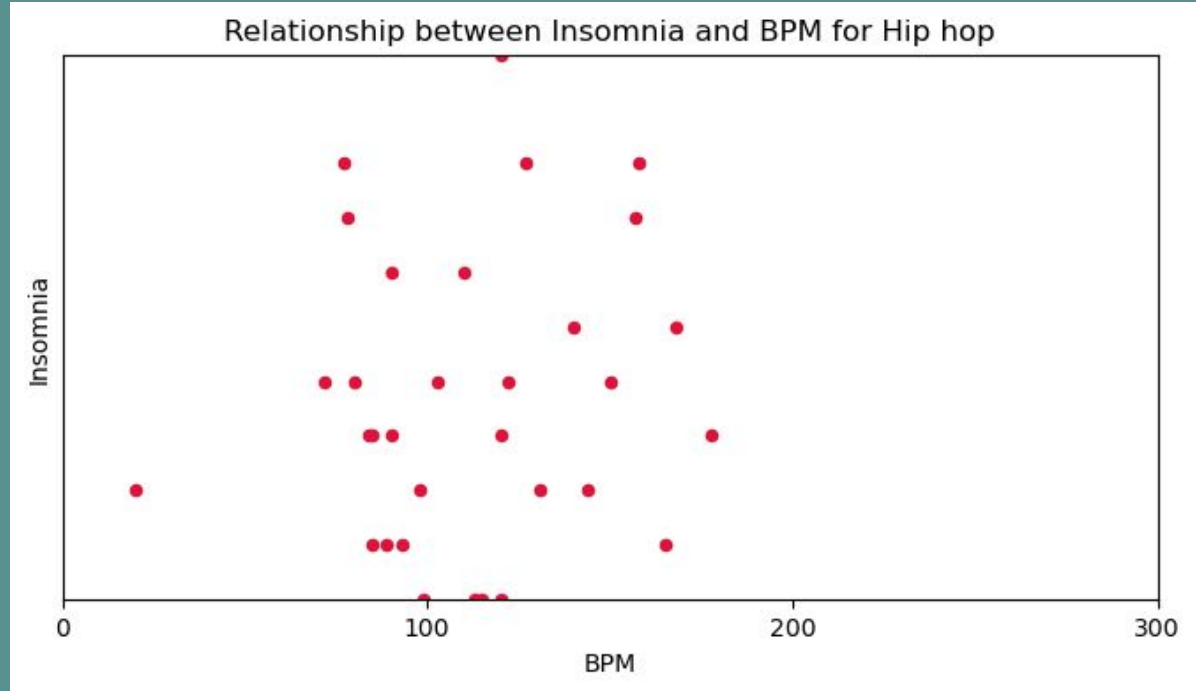
Insomnia Conclusion



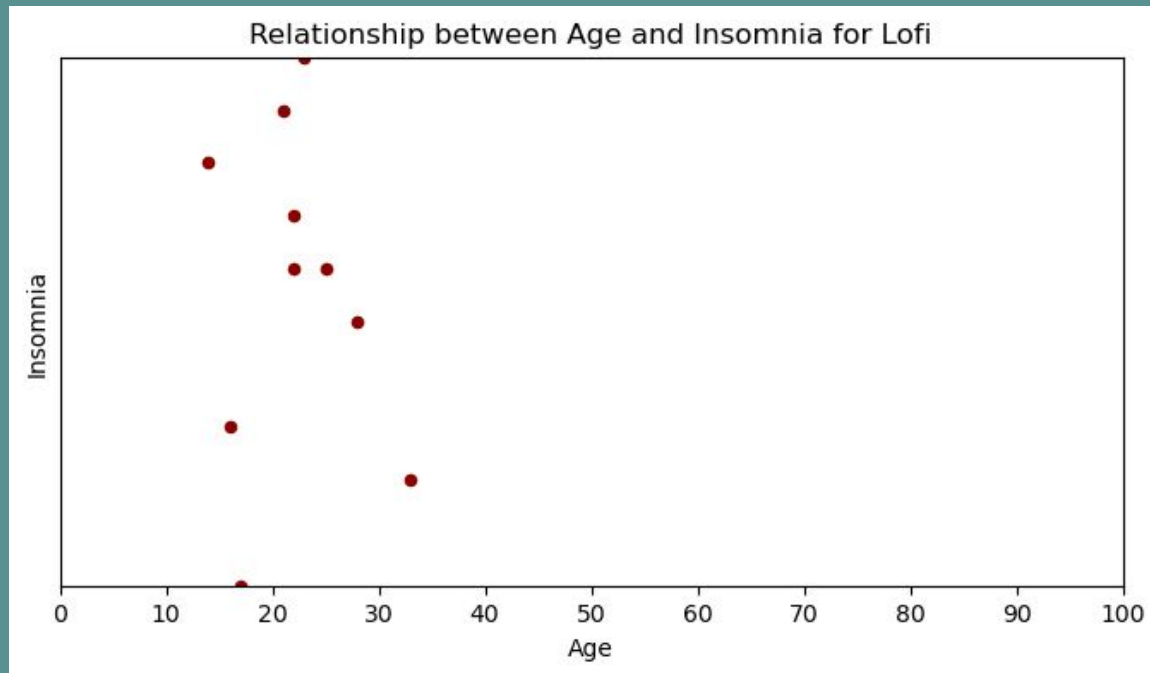
Insomnia Conclusion



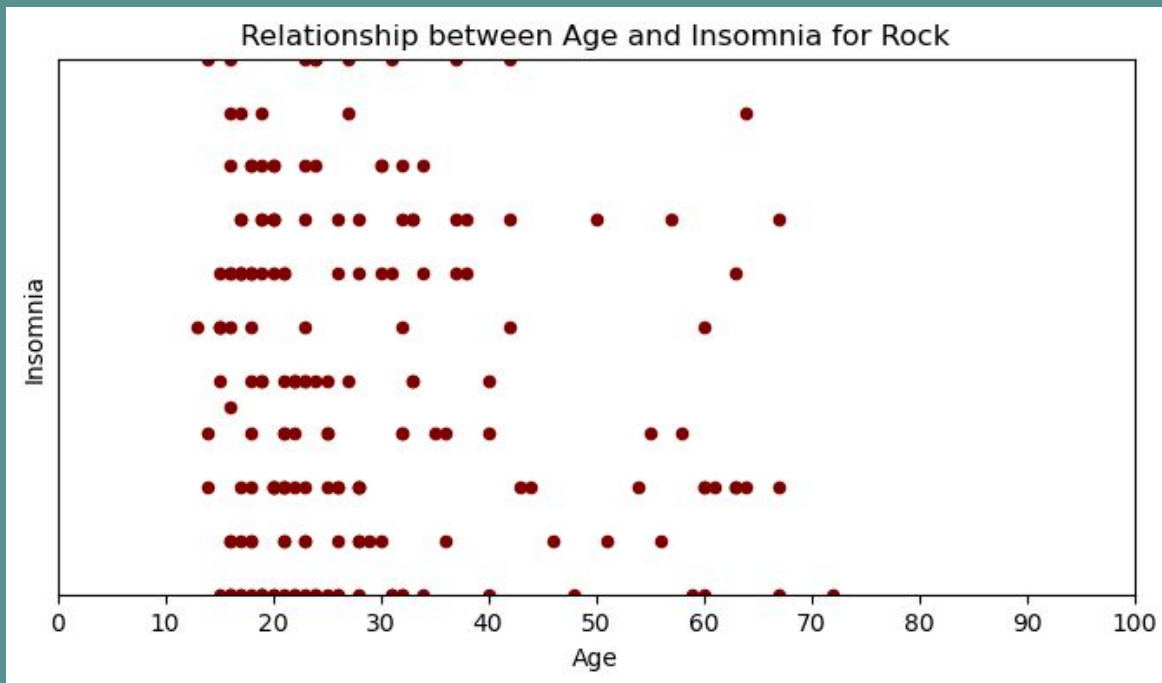
Insomnia Conclusion



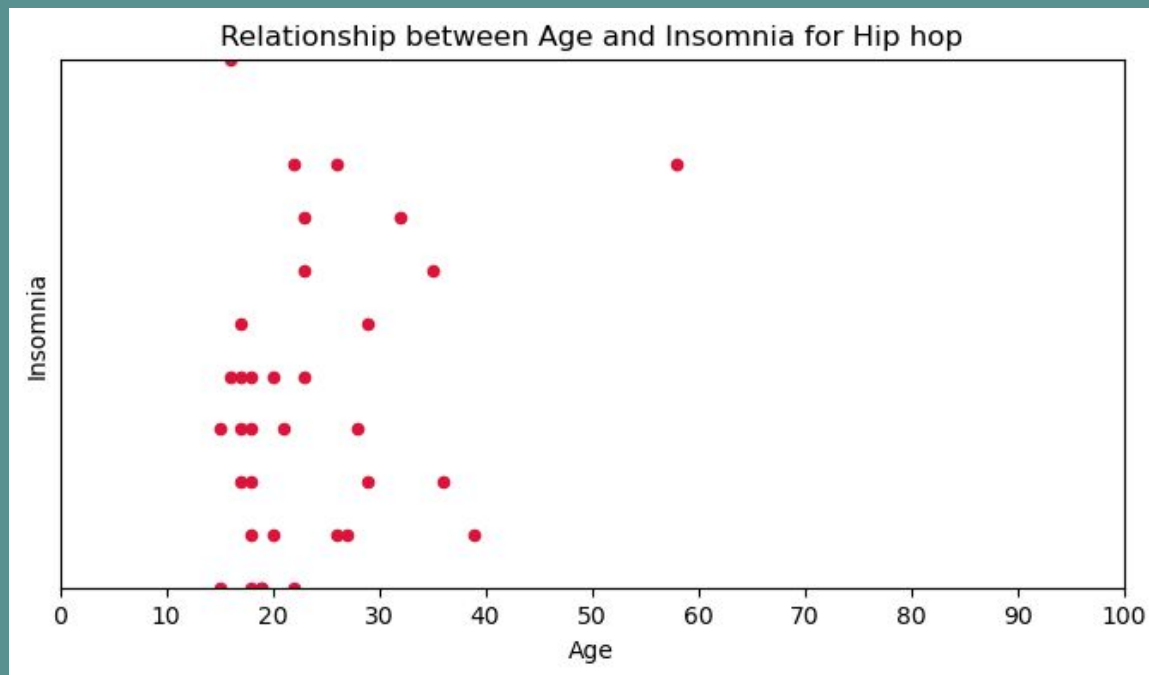
Insomnia Conclusion



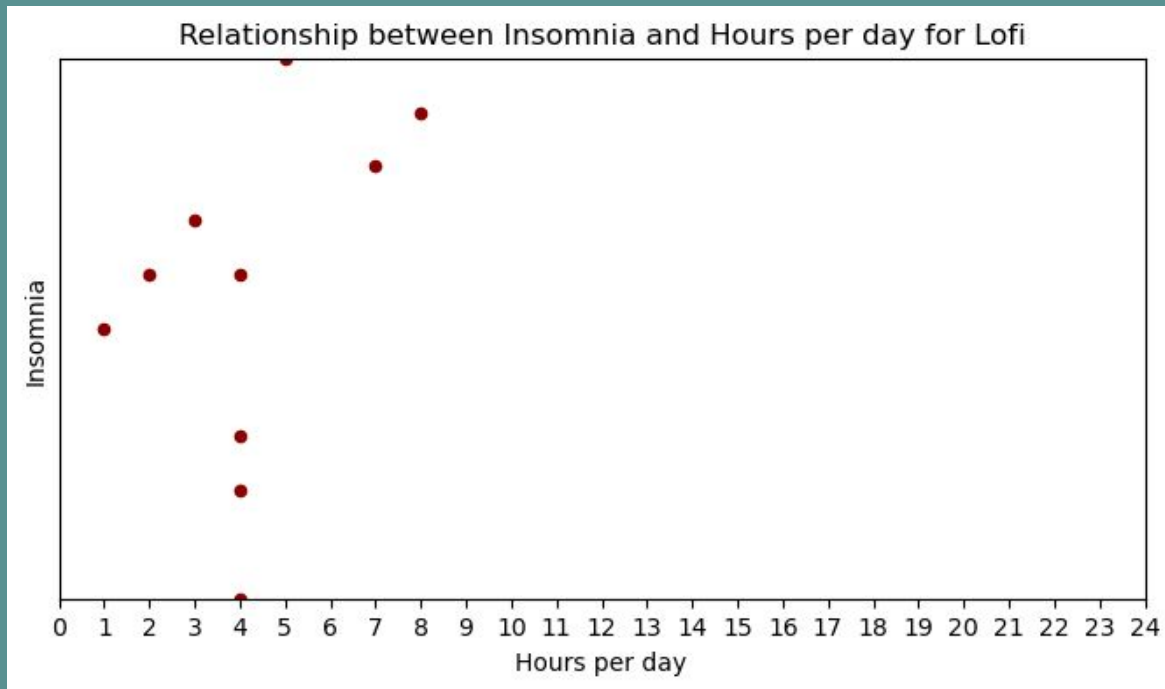
Insomnia Conclusion



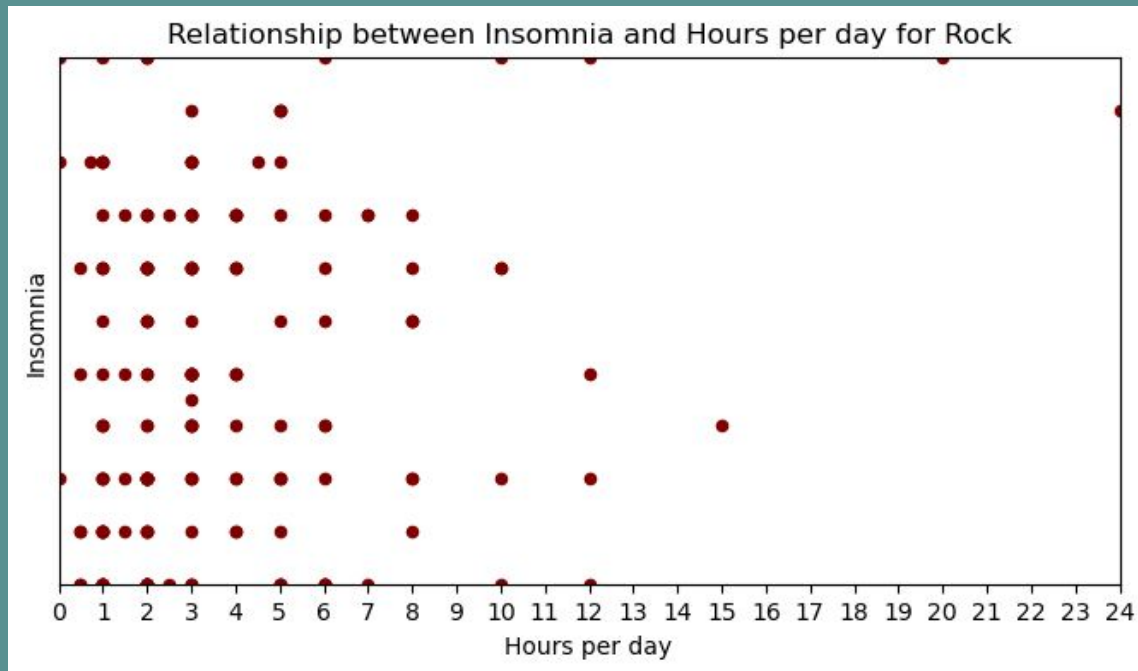
Insomnia Conclusion



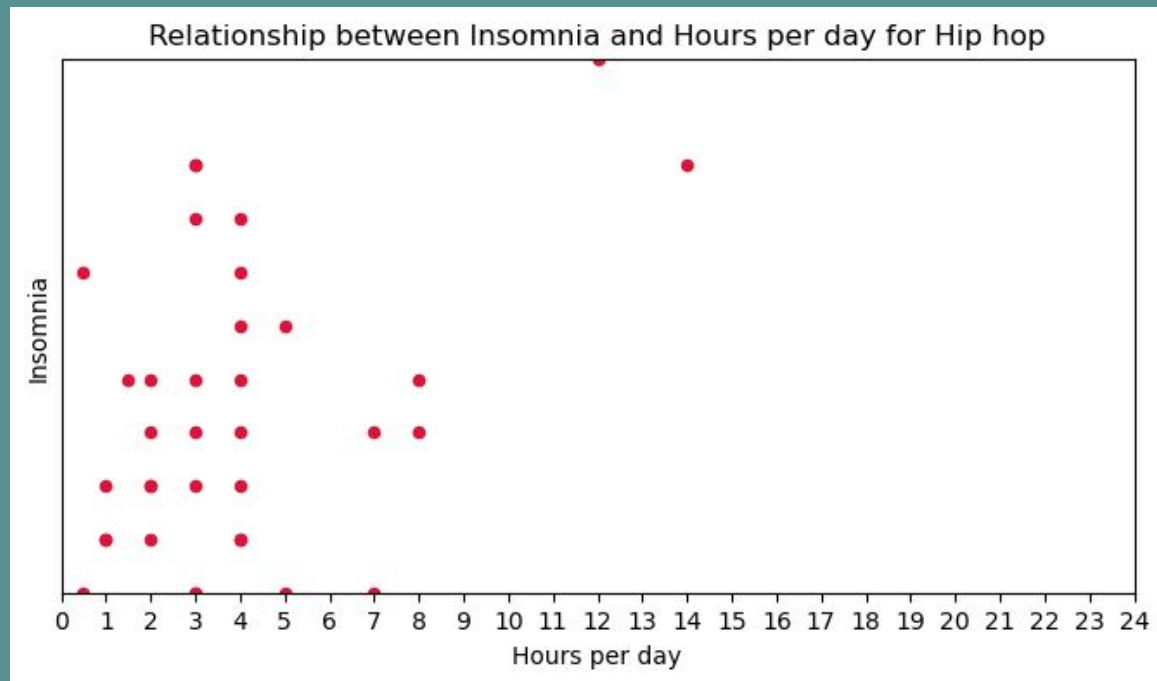
Insomnia Conclusion



Insomnia Conclusion



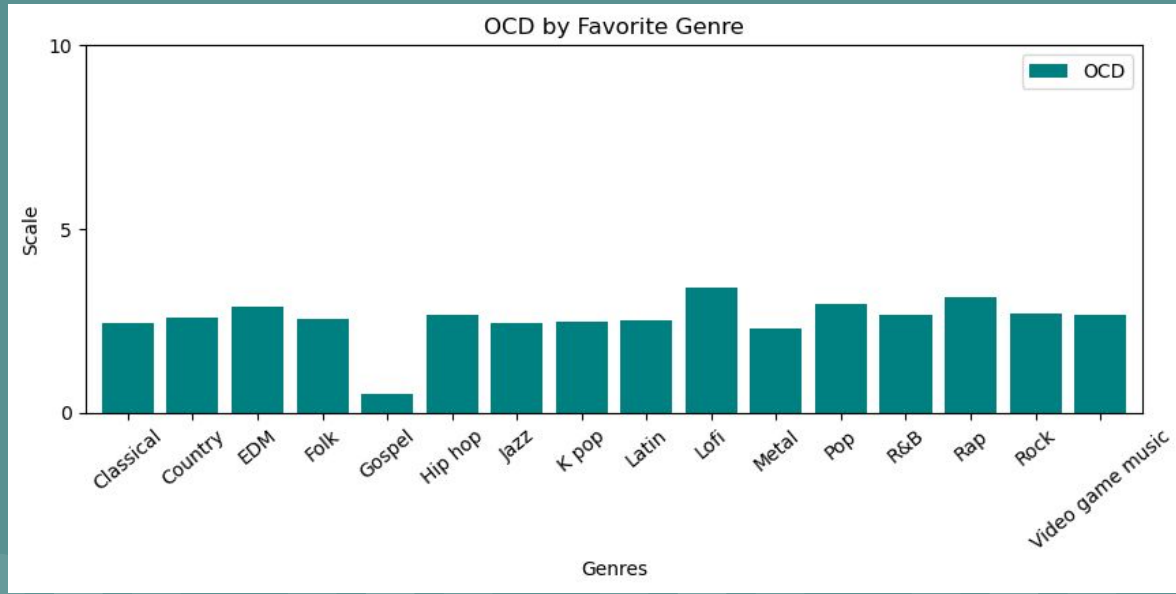
Insomnia Conclusion



Results/Conclusion for OCD

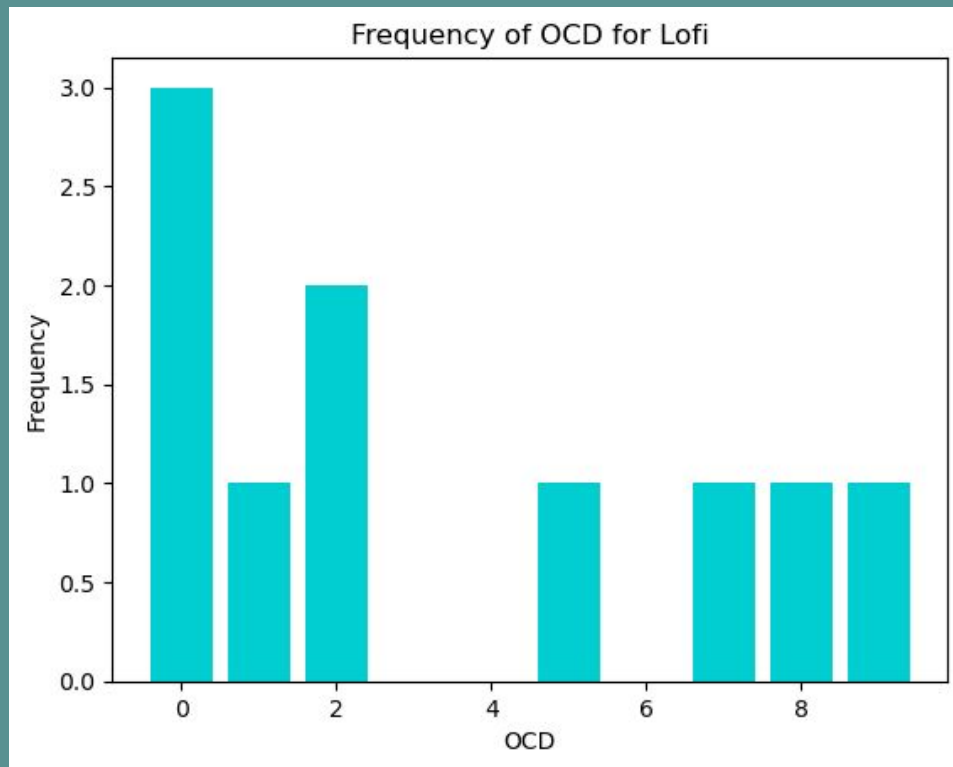
OCD had the lowest mean of the four mental health conditions we analyzed.

One could conclude that music has the least impact on OCD.



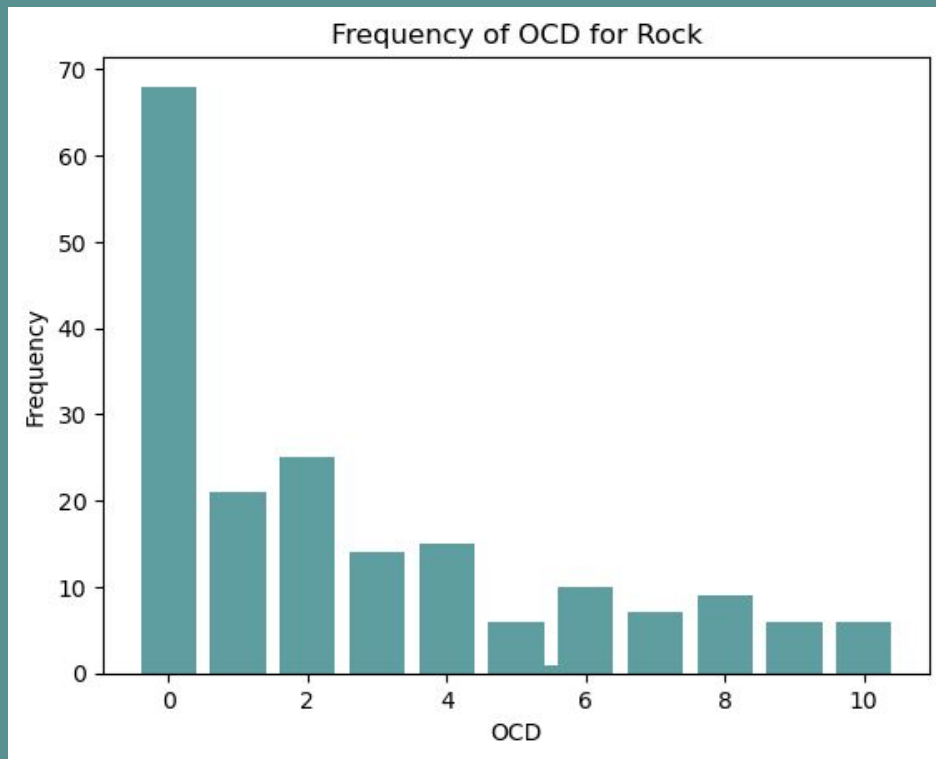
OCD

Conclusion



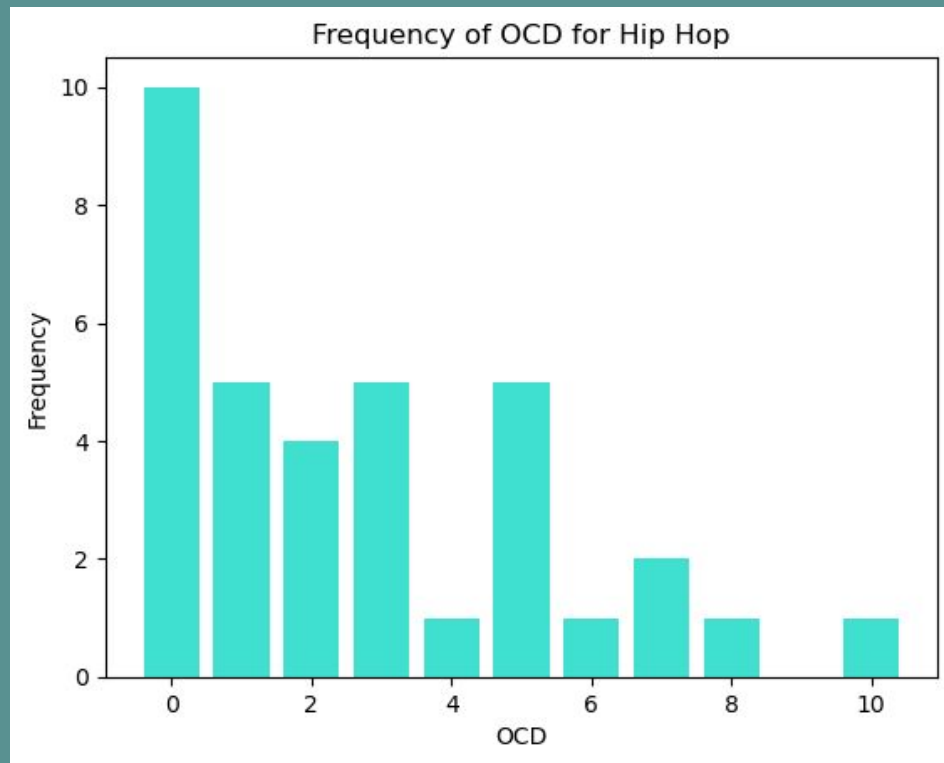
OCD

Conclusion



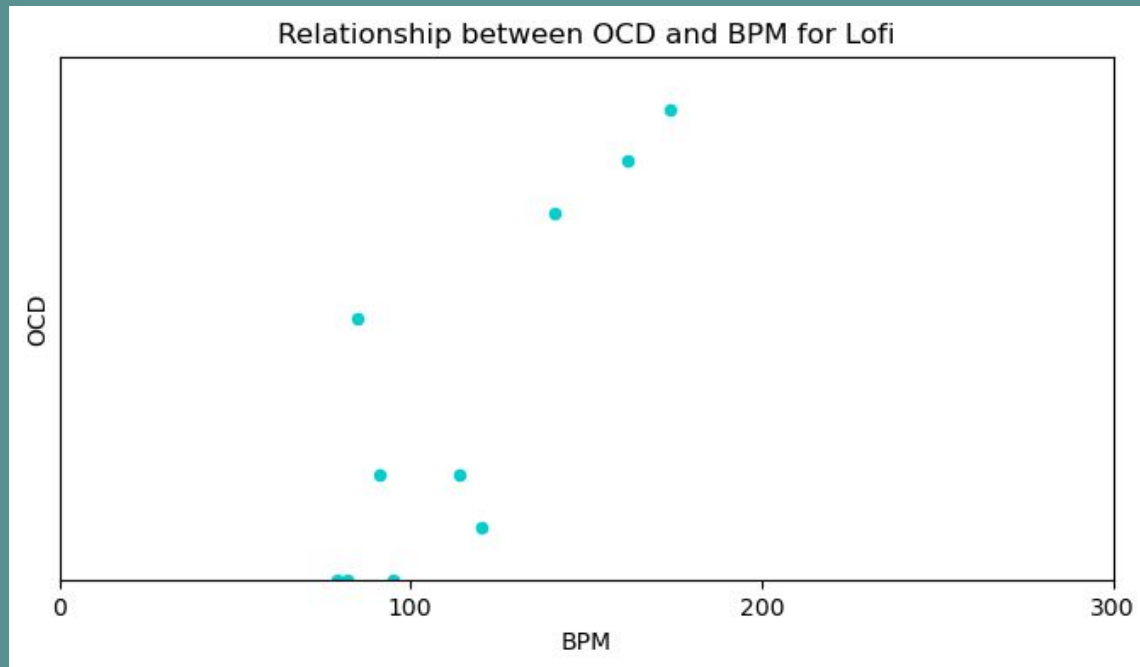
OCD

Conclusion



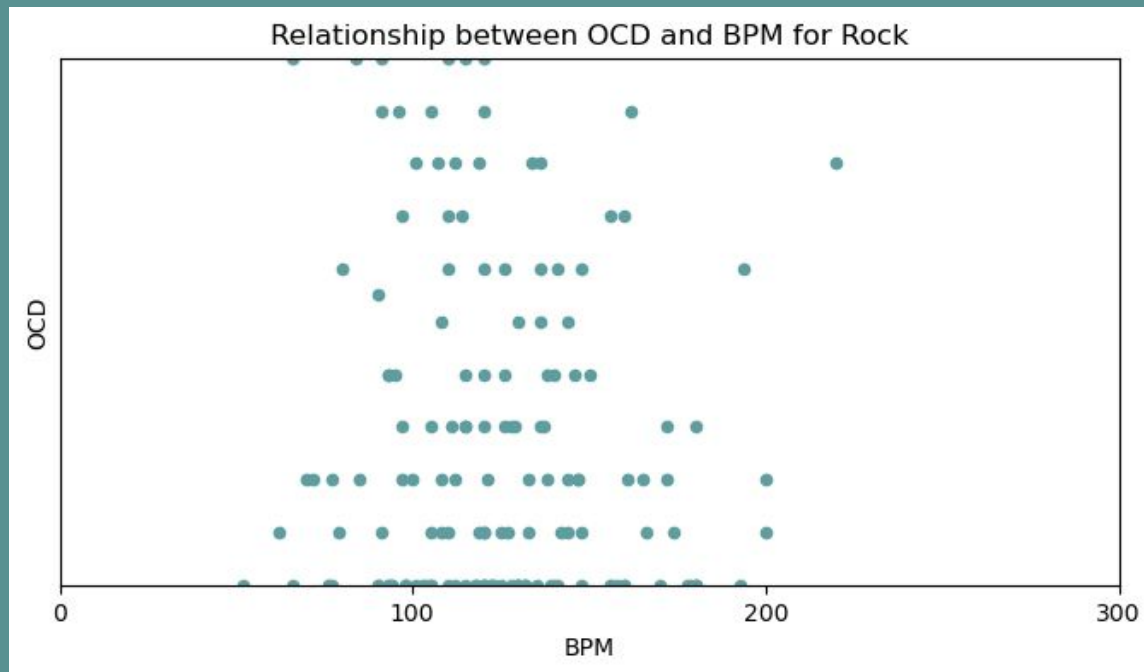
OCD

Conclusion



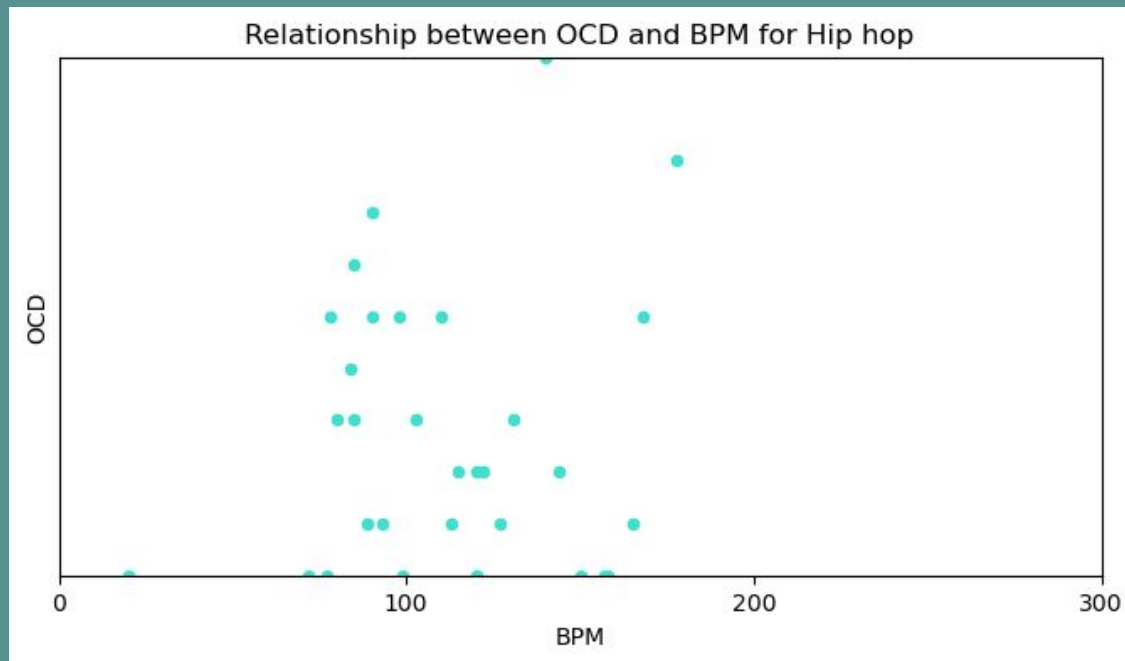
OCD

Conclusion



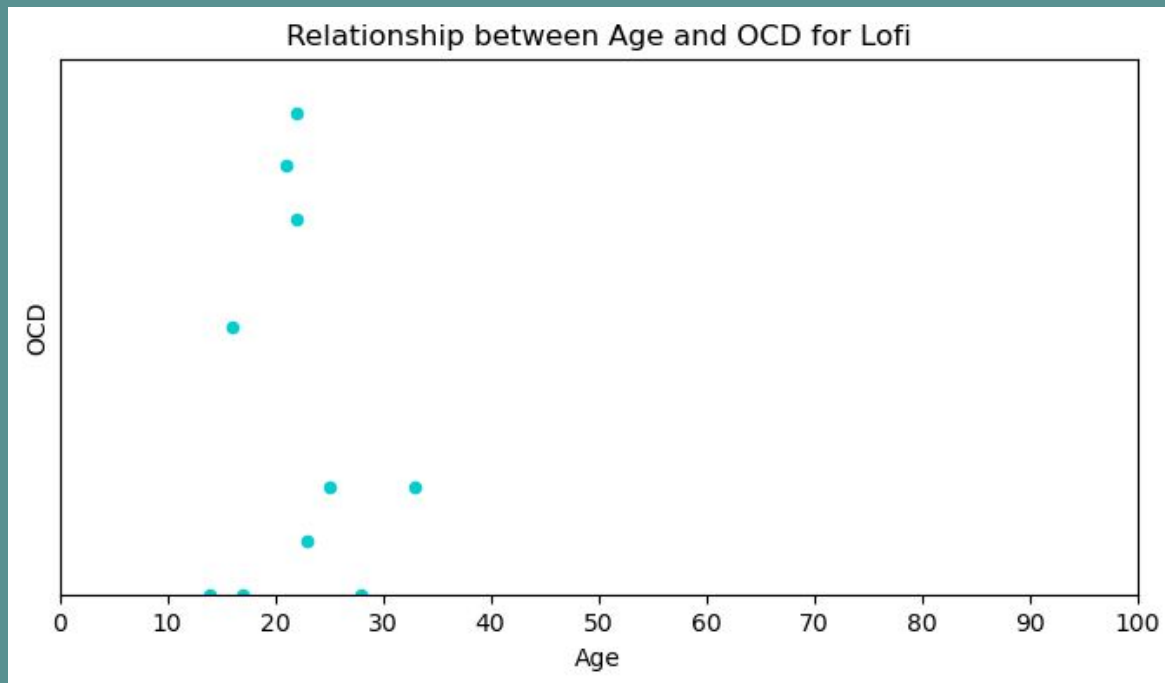
OCD

Conclusion



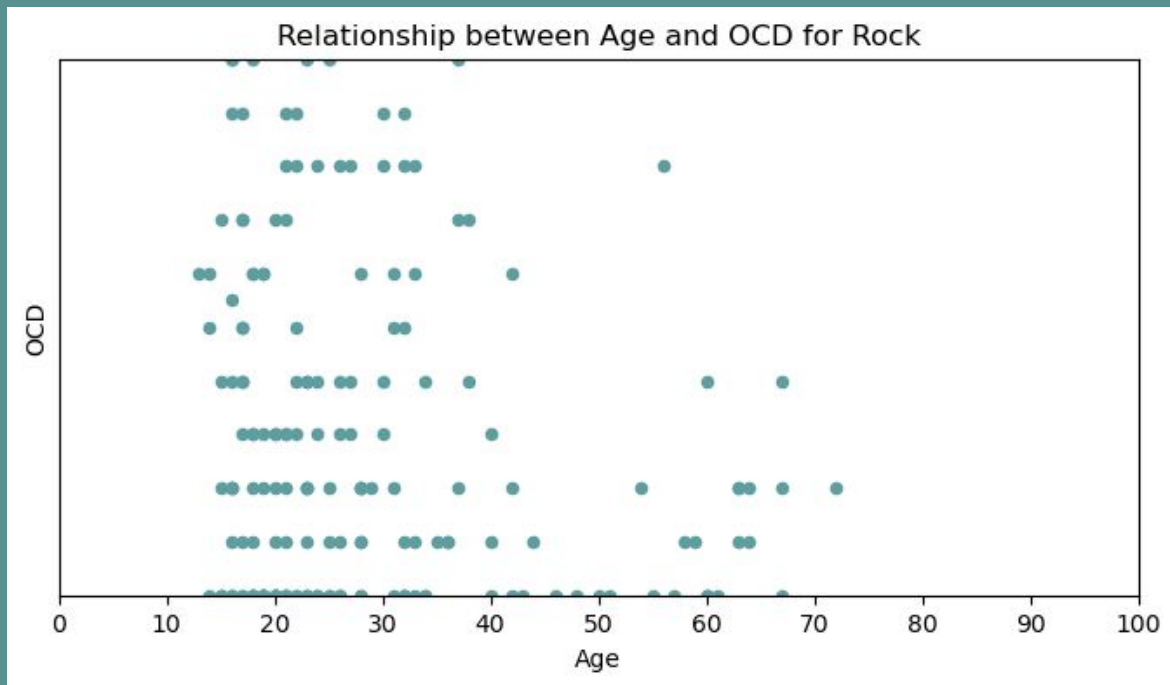
OCD

Conclusion



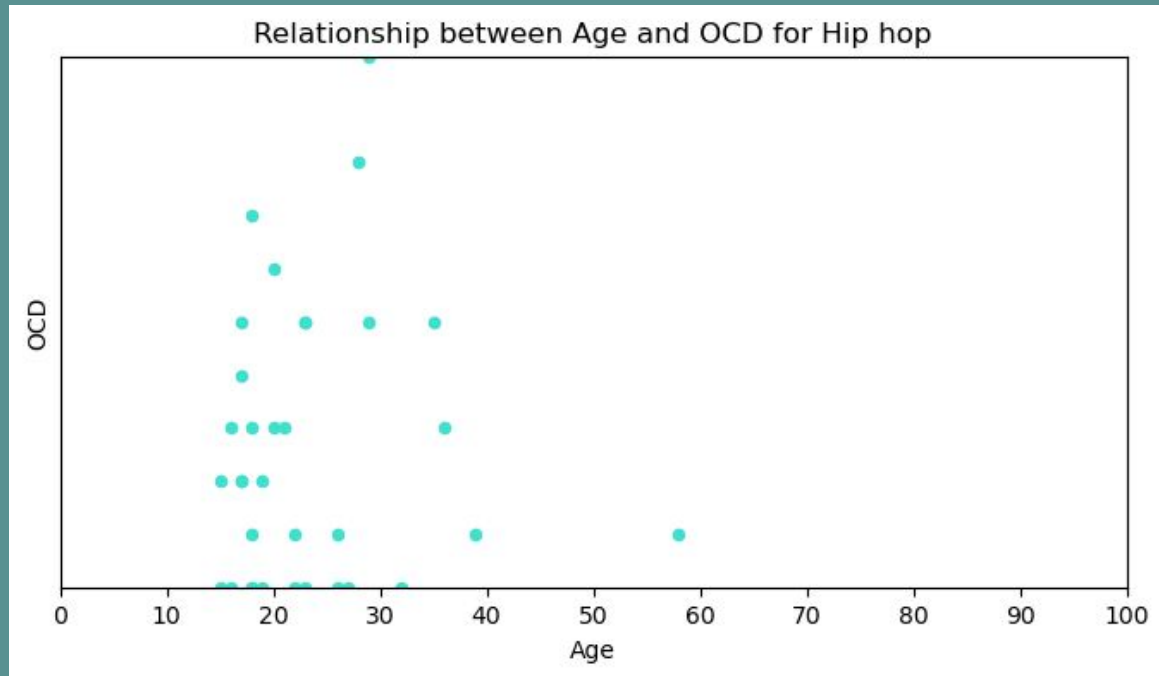
OCD

Conclusion



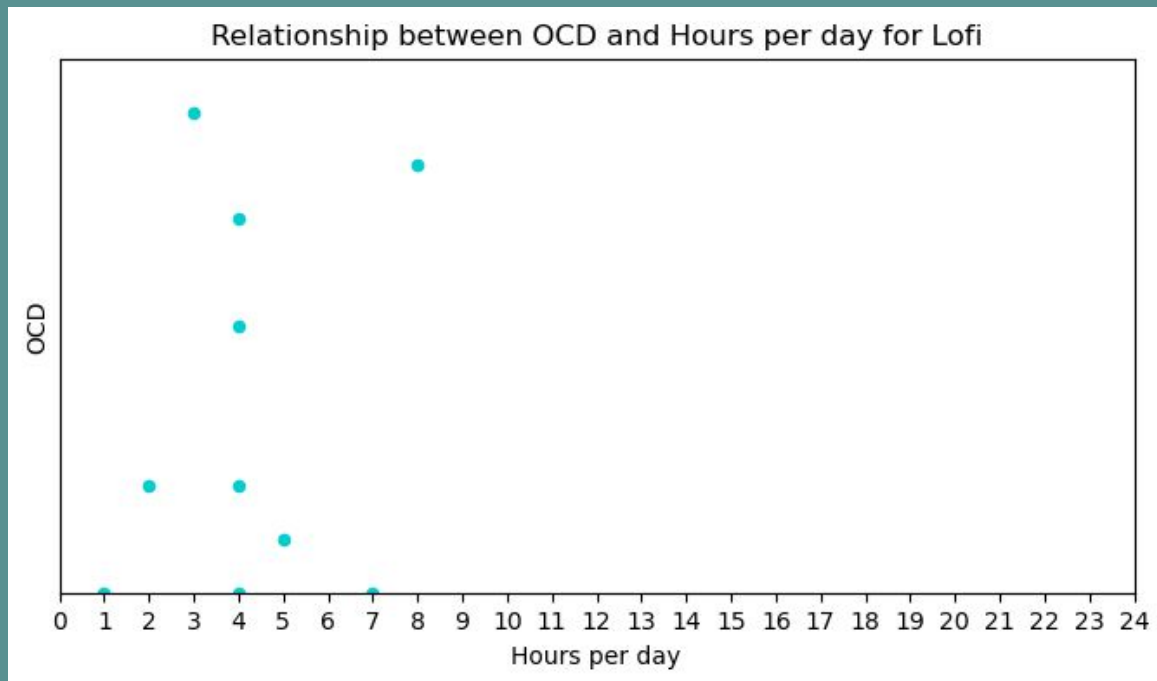
OCD

Conclusion



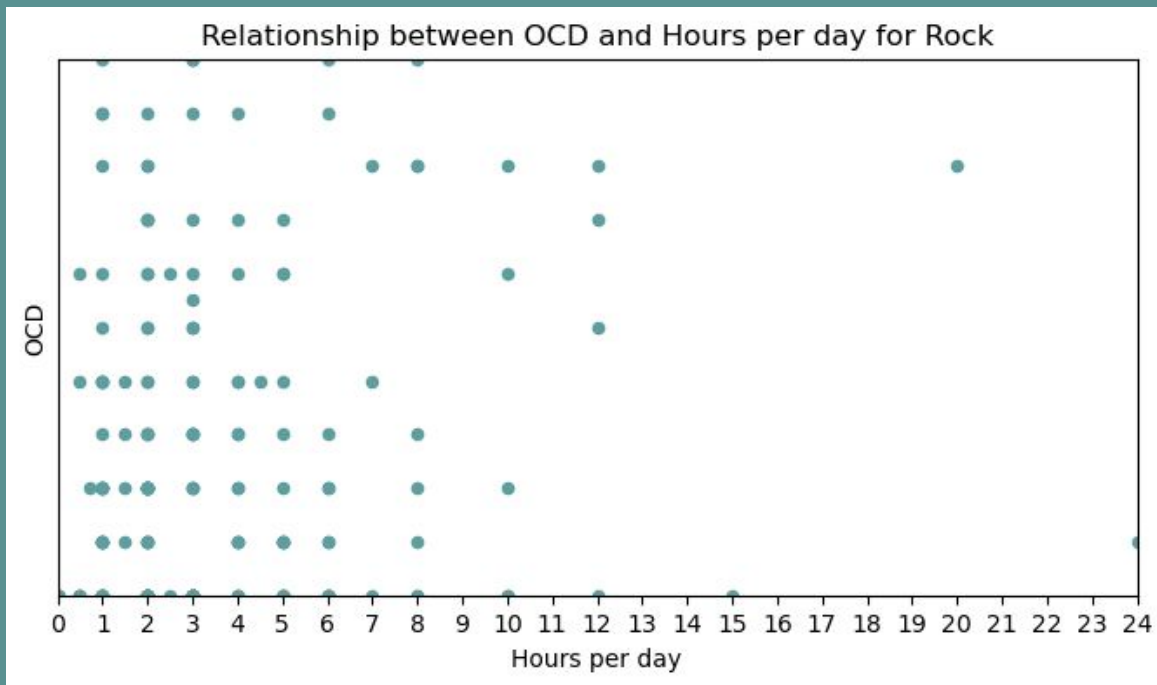
OCD

Conclusion



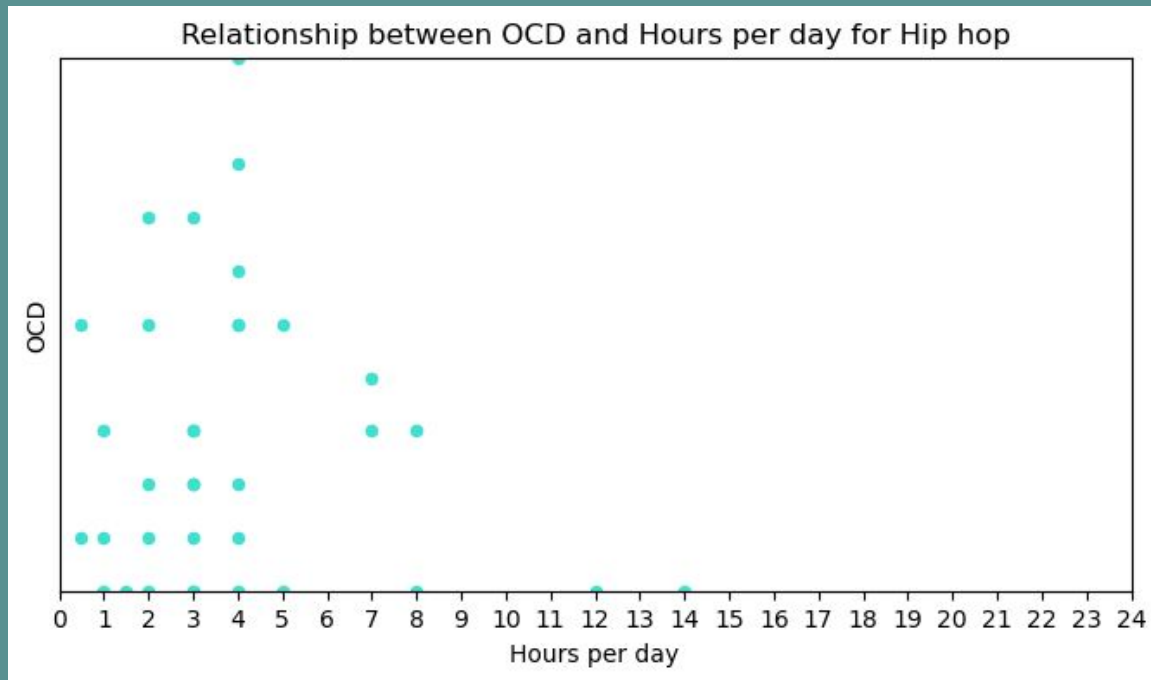
OCD

Conclusion



OCD

Conclusion



Summary

Through this analysis, we aimed to provide insights into how music preferences may influence mental well-being. The results obtained can serve as a basis for further research and potentially inform interventions or therapeutic approaches leveraging music.

	Depression	BPM	OCD	Anxiety	Insomnia	Age	Hours per day
Depression	1.000000	0.041804	0.158990	0.527950	0.372675	-0.087390	0.085559
BPM	0.041804	1.000000	0.018939	-0.027564	0.054452	-0.030435	0.043320
OCD	0.158990	0.018939	1.000000	0.339262	0.198866	-0.140464	0.108197
Anxiety	0.527950	-0.027564	0.339262	1.000000	0.275013	-0.193781	0.036945
Insomnia	0.372675	0.054452	0.198866	0.275013	1.000000	0.007083	0.119036
Age	-0.087390	-0.030435	-0.140464	-0.193781	0.007083	1.000000	-0.044917
Hours per day	0.085559	0.043320	0.108197	0.036945	0.119036	-0.044917	1.000000

Problems Encountered

- Inability to use Prophet time series for data analysis due to dtypes in our dataset
- Github issues with merge conflicts and branching
- Skewed sample size impeded further data analysis

Future Considerations

- Larger sample size population surveyed
- Geographical locations outside of the U.S.
 - What countries are most affected by which genres
- Enhance our correlation analysis with different correlations such as median and mode
- Leveraging other data to find trends
- Analyzing world health data for more accurate mental health trends

Q & A