The Effect of Music on Mental Health in College-Aged Students

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Introduction

The field of "music interventions", which explores the effects of music on stress has developing steadily in both documentation and credibility see [1]. Music has been documented across studies to have significant effects on mental health across all ranges of mental state, though a majority of studies focus on specific mental conditions such as depression and anxiety.

Students between the ages of 18-22 are found to have the highest prevalence of a major depressive episode when compared to other age groups see [2]. Factors such as high academic pressure can possibly extrapolate this risk, as seen in Figure 1. This study seeks to find the links between music and improved mental state, specifically within this high-risk age range.
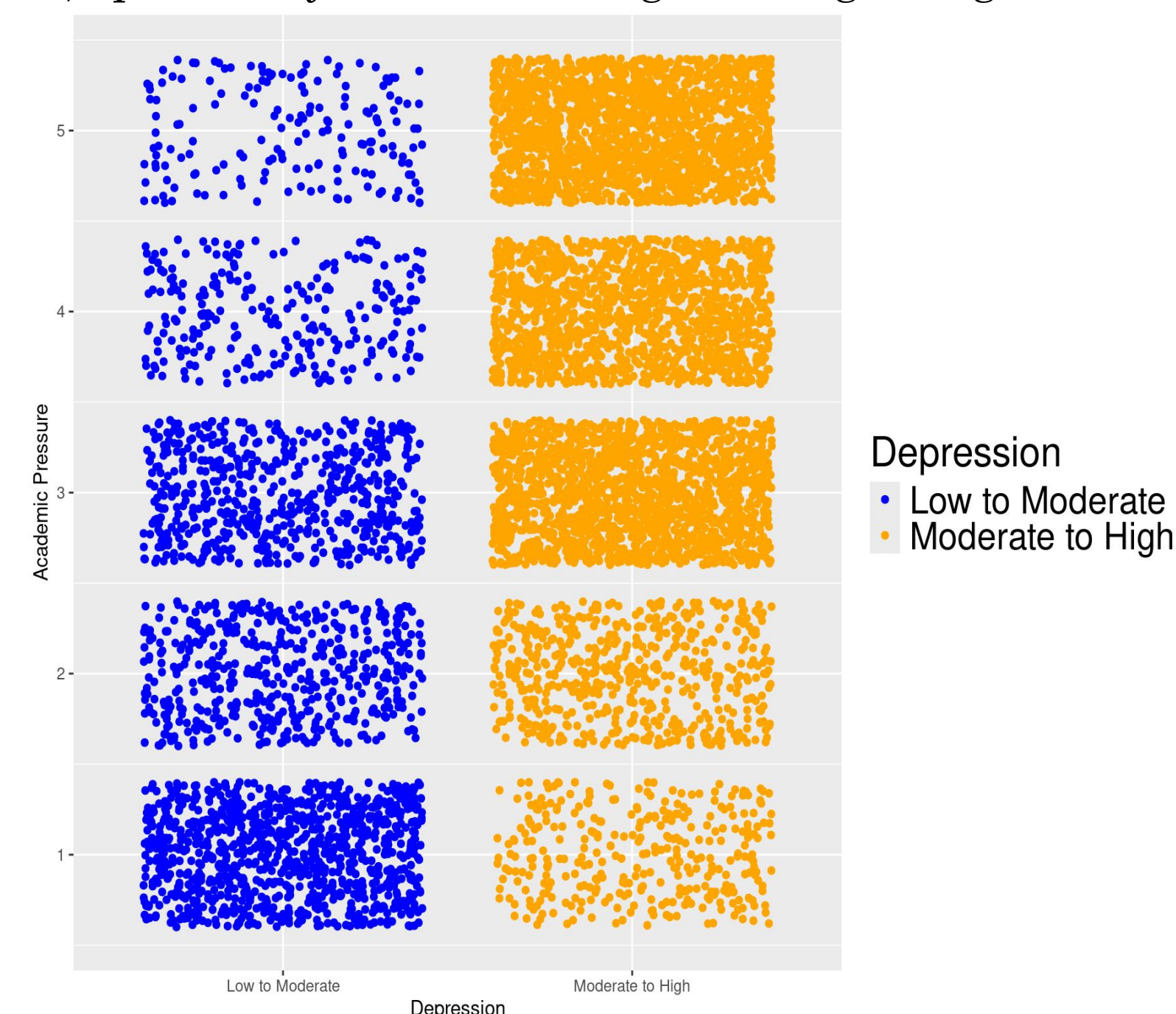

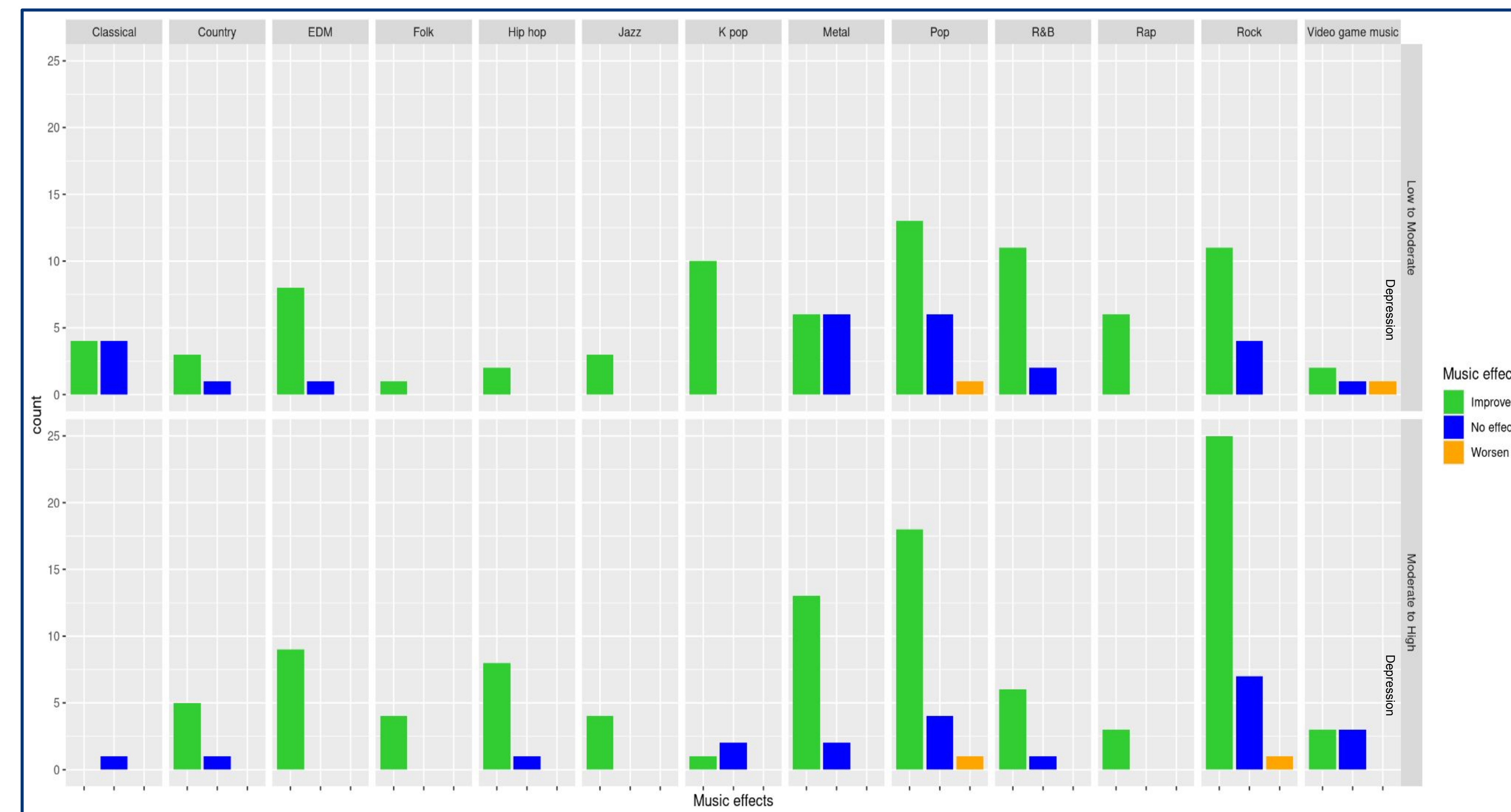**Figure 1** *Degree of experienced depression compared to levels of academic pressure*

Materials and Methods

	Music and Mental Health Survey Dataset	Student Depression (and Mental Health) Dataset
Data Collection	Data originally collected via a Google Form, posted through several social media platforms, including Reddit and Discord.	Data originally gathered through anonymized, self-reported surveys across various educational institutions.
Data Cleaning	Variables "Permissions" and "Timestamp" were removed due to being irrelevant	Variables "ID" and "City" were removed due to irrelevance and privacy risks
Data Filtering	"Age" variable filtered to include only ages 18–22, aligning with project focus	
Data Conversion	Depression scale recoded for consistency	"Depression" variable was corrected to reflect two distinct categories instead of a continuous scale

Results

Figure 2 *Music effects on different genres, split by people with and without depression*

Figure 4 *Hours of music consumed compared to the effects of music on student mental health*
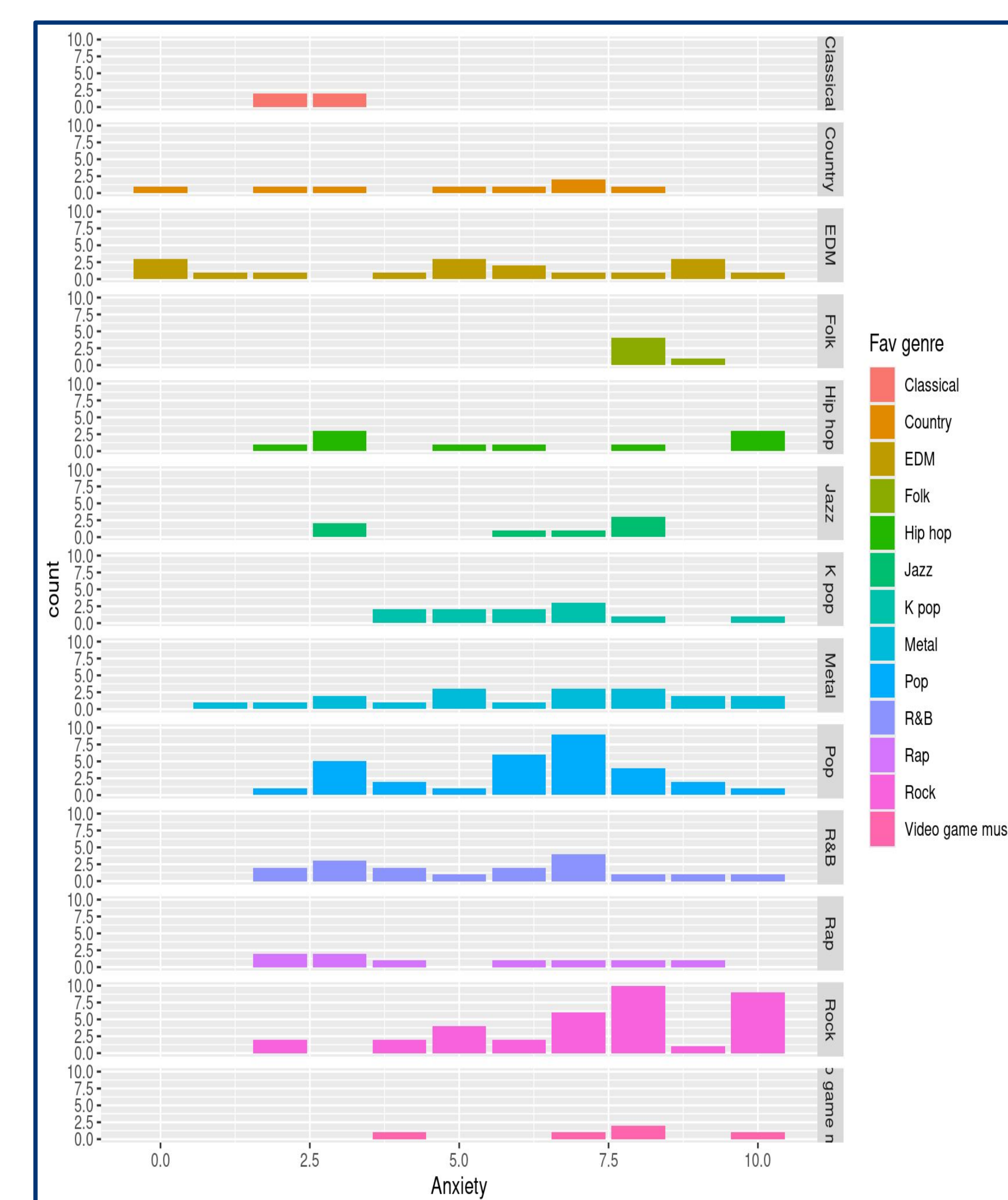
Figure 5 *Anxiety score distributions across music genres, score on improvement of mental health*
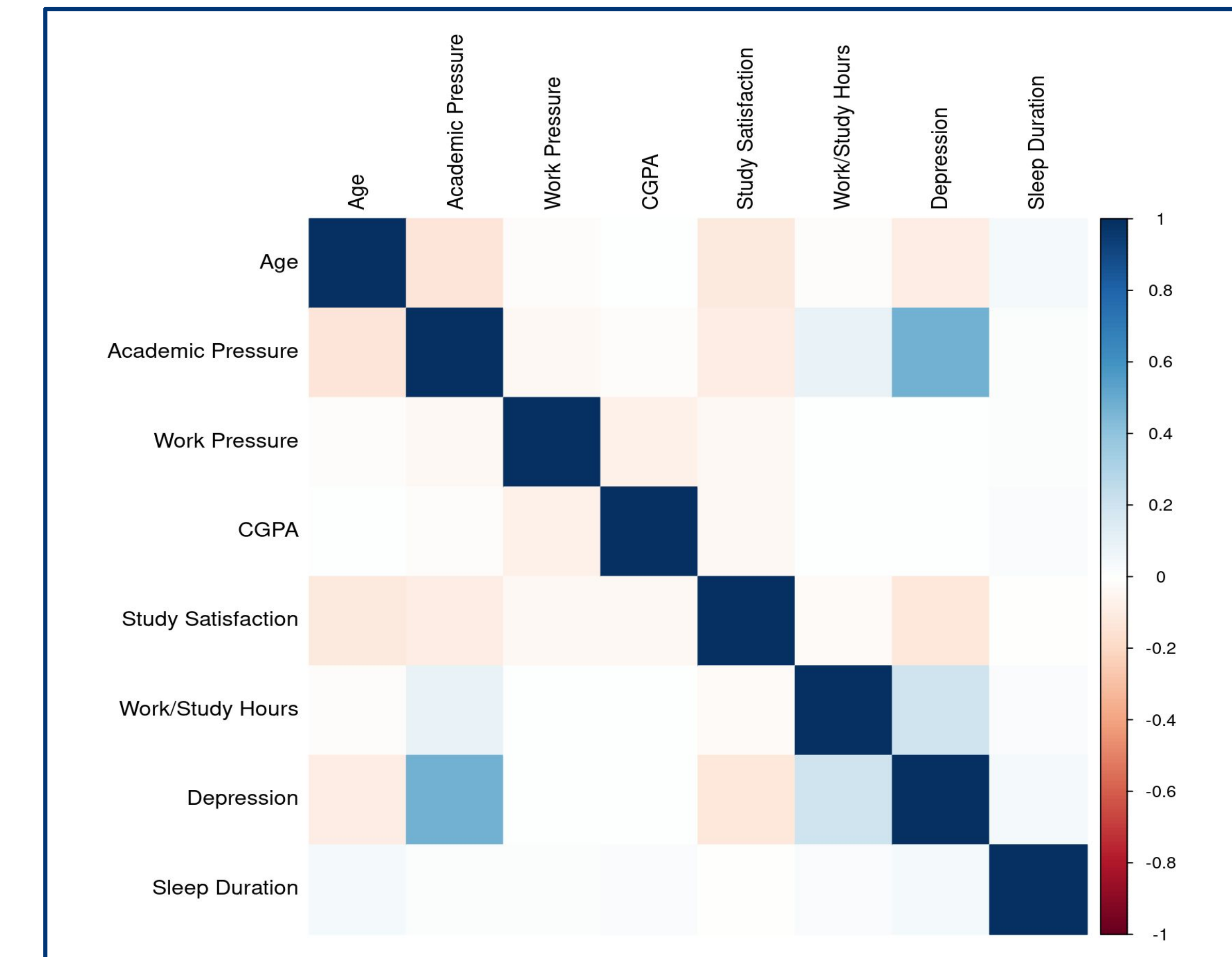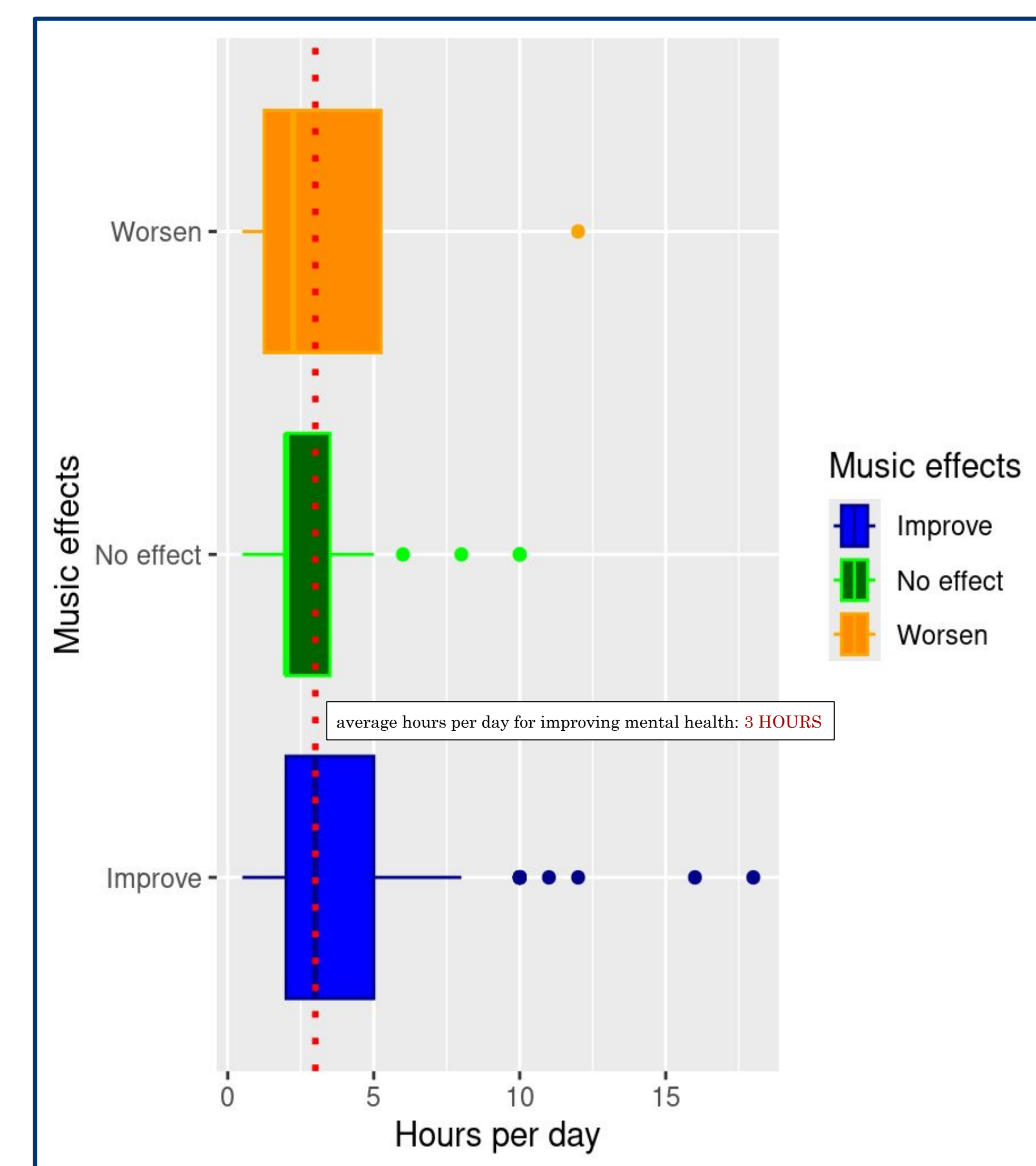

Figure 3 *Matrix of correlation between different factors of the student mental health dataset*

Conclusion

Music may serve as a supportive intervention for alleviating depression related to academic pressure. In this study, individuals who reported an improved mental state after listening to music primarily preferred Rock, Pop, or Metal, and listened for an average of 3 hours daily.

Future research should explore music's impact on a wider variety of mental health conditions and incorporate diverse age groups and data sources to strengthen results.

References

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2. Collier Villaume, Sarah et al. "Age Disparities in Prevalence of Anxiety and Depression Among US Adults During the COVID-19 Pandemic." JAMA network open vol. 6,11 e2345073. 1 Nov. 2023, doi:10.1001/jamanetworkopen.2023.45073
3. Rasgaitis, Catherine, 07/27/2022, "Music & Mental Health Survey Results", https://www.kaggle.com/datasets/catherinerasgaitis/mxmh-survey-results
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Acknowledgments