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ALY 6010

Module 1 R Practice

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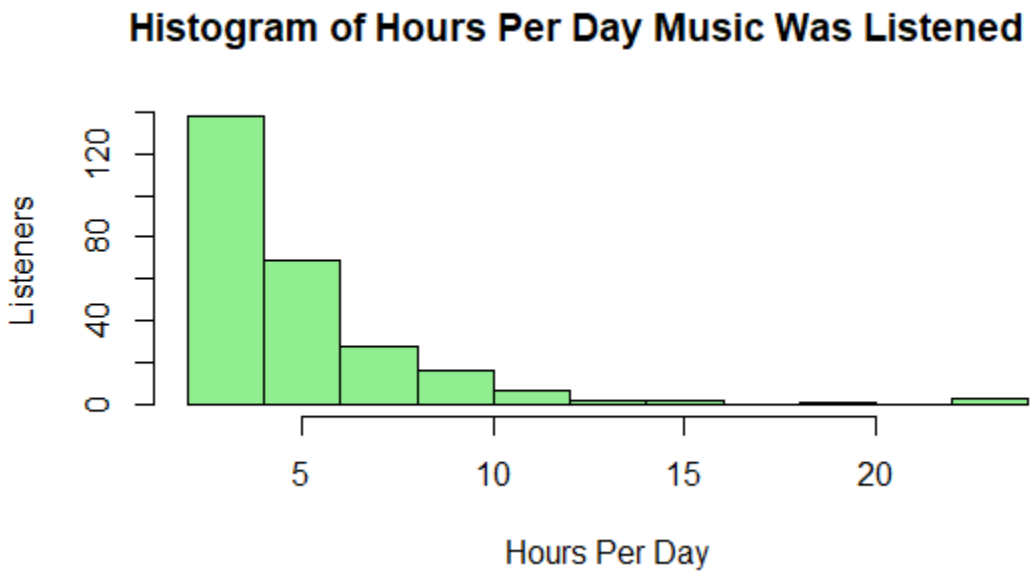
The dataset I used from Kaggle was on the effects of listening to different genres of music on people who have possibly had mental health issues and how that has impacted their symptoms. It was a data set that I particularly found fascinating because I know from experience that music has always had an immense impact on how I feel. The main goal of analyzing this data set was to see if I could find any patterns or trends that could show the justification of music listening being a useful tool in improving an individuals mental health.

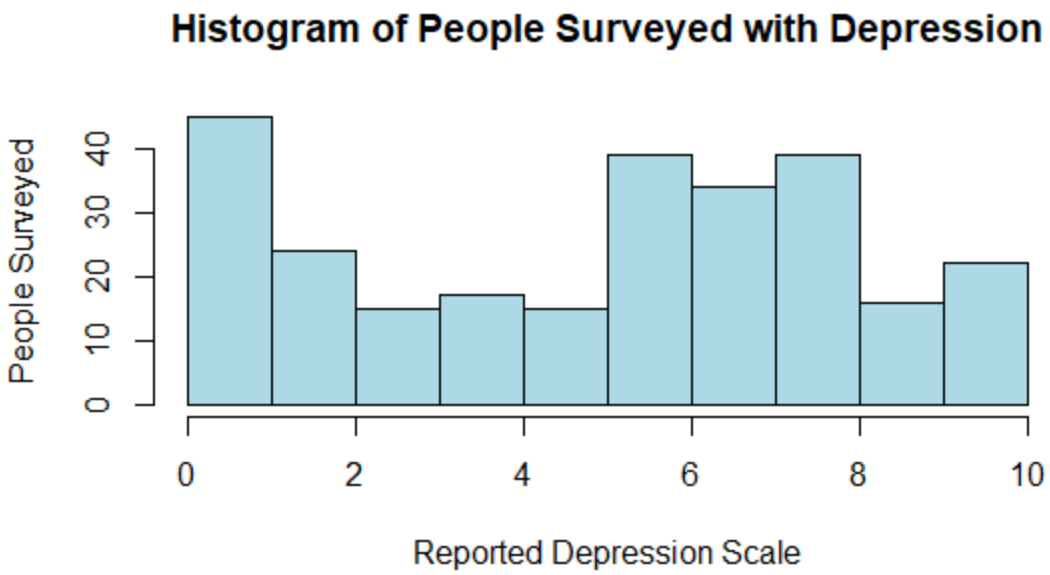
The variables of interest were the demographics of the people that were surveyed for the research, the genres of music that the person would likely or not likely listen to, and some of the mental health symptoms they might be having. Some other variables in the data set that I found interesting were the streaming providers they use, whether they listen to music at work or not, and how many hours per day the individual listens to music. The initial data set had 33 variables with 736 observations, so to avoid the data set being a bit too cluttered and large I decided to narrow down the data by removing variables that were of little impact. To reduce the high amount of observations to a smaller number that would make it easier to analyze, I narrowed the data set down to only users in the survey that used Spotify as their streaming service and that also listened to at least three hours of music per day. These qualities were based off the majority of users in the survey that were Spotify listeners and that listened to enough music daily because there could be more of an interest in music if they listen to more music daily than others.

To analyze the revised data set I implemented the cross tabulation and frequency table functions in R Studio to get a better idea of how music can affect mental health. My main focus while analyzing was to compare the music effects variable with random variables to see if anything really stood out. When looking at how many hours of music per day that the individuals listened to music, people that answered that they listened to three hours of music per day were most likely to have no effect on their mental health. The people that listened to at least four or five hours of music daily were most likely to have an improvement in their mental health. Most people surveyed also indicated that they listened to music at work and that had the highest percentage where there was mental health improvement. Of the 27 people surveyed that did not listen to music at work, only 16 answered that music still was an improvement, but this is also a

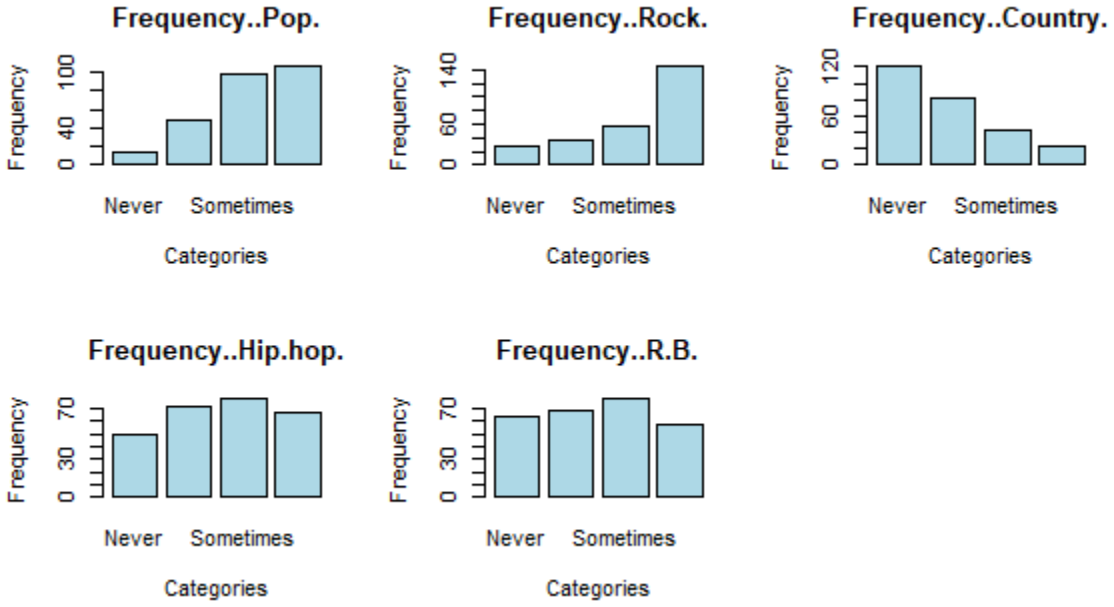
pretty small sample size overall. And looking at the ages of the people surveyed, the majority of people fell in the age range of 16 to 22. The only age that somewhat stood out in its results was age 18, with only 75 percent of the respondents that age answering that music improved their mental health. While still a high percentage, it is noticably lower than the other ages in that range.

Looking at several music genres when comparing the mental health effects, the results were pretty much on par with the other cross examinations. The people surveyed seem to show improvement in mental health regardless of how much they listened to a certain genre of music like rock or pop. Even in a genre like country where less people listened to that type of music compared to rock or pop, the results were still similar. One aspect that did stand out in the analysis with music genre results was that when people responded with an answer of rarely to a music genre they listened to, there was a higher probability of not having any effect on their mental health.

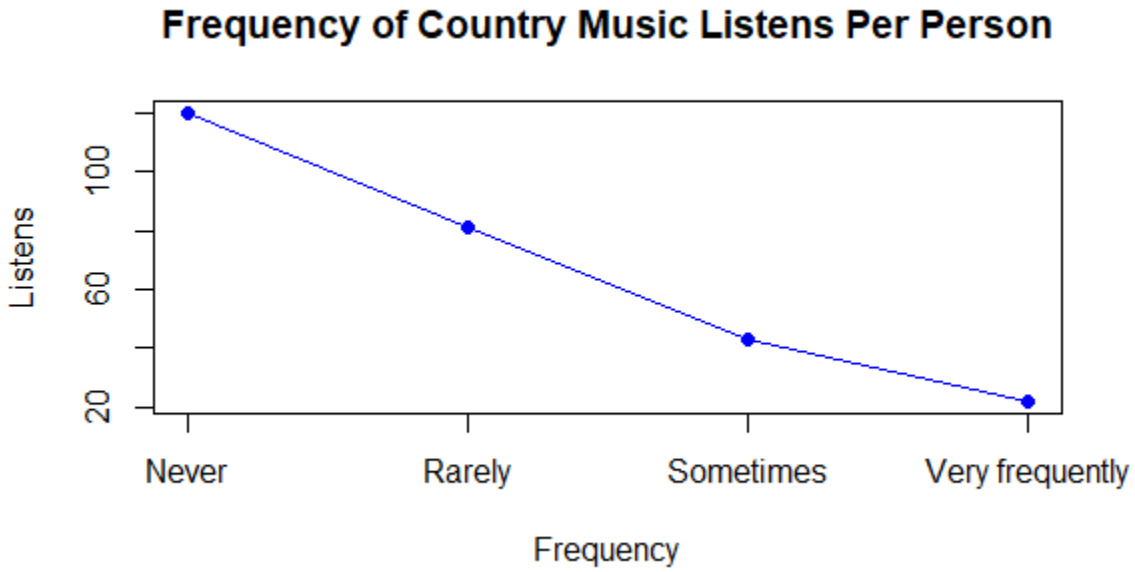




Looking at this variable in a histogram really provides a lot of clues into the state of the people surveyed. There was a high percentage that were not experiencing any mental health problems but there was also a large amount of people that were showing moderate mental health symptoms.



The bar charts show a lot of popularity among the rock and pop genres, some similar results between each category in the hip hop and R&B genres, and not much popularity in the country genre as shown in the line plot below. Despite the differences, the results still showed that mental health overall improves from listening to any genre of music.



References:

Rasgaitis, Catherine. (2022, November 8th). *Music and Mental Health Survey Results.* Kaggle. Retrieved on November 3, 2023 from https://www.kaggle.com/datasets/catherinerasgaitis/mxmh-survey-results/data

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