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Regression Writeup

The multilinear regression model that was built was used to predict the Mood_After_watch response variable based on the predictor variables BDI_TOTAL, Mood_During_Watch and Mood_Daily. The model can be written as: Mood_After_watch = 10.73 + 0.12BDI_TOTAL + 0.63Mood_During_Watch + 0.26Mood_Daily. Thus, the multilinear regression model had a y-intercept of 10.73, which would mean that when all of the predictor values are all 0, the Mood_After_watch value would be 10.73. This could make sense, since a person can have a slightly better mood after watching ASMR videos given that the person has no depression, but had the worst mood on a particular day while watching ASMR videos and having the worst mood in general at that point in time. Assuming all other predictors are fixed except for the BDI_TOTAL variable, for every 1 point increase in the BDI_TOTAL, the Mood_After_watch variable increases by 0.12. For the slope of the Mood_During_Watch variable, and assuming all other predictors variables are fixed, a 1 point increase in the Mood_During_Watch variable would cause a 0.63 increase in the Mood_After_watch variable. Finally, for the slope of the Mood_Daily variable, while assuming all other predictors are fixed, a 1 point increase in the Mood_Daily variable would mean there is a 0.26 increase in the Mood_After_watch variable. The multiple R-squared value indicates that the model explains 57.53% of the variability/spread in Mood_After_watch response variable using BDI_TOTAL, Mood_During_Watch and Mood_Daily as the predictors. The adjusted R-squared value indicates that good predictions are made 57.26% of the time. With the multilinear regression model, the Mood_After_watch variable was predicted three times. Each of the three observations had differing values. The first observation had BDI_TOTAL = 10, Mood_During_Watch = 70, and Mood_Daily = 65, and the outcome of the Mood_After_watch variable ended up being 72.99. The second observation had BDI_TOTAL = 44, Mood_During_Watch = 31, Mood_Daily = 26, and then Mood_After_watch = 42.29. The third observation had BDI_TOTAL = 23, Mood_During_Watch = 63, Mood_Daily = 56 and Mood_After_watch = 67.78. This shows that given a low BDI_TOTAL, meaning a low depression level, and somewhat high values of mood while watching ASMR videos and in general indicate that this person would end up having a higher mood after watching ASMR videos as seen with the first observation. The third observation shows that an average person with a medium low score of BDI_TOTAL, so an average depressed person, with moods slightly above average while watching ASMR videos and in general would generally have a slightly above average mood after watching ASMR videos. The second observation indicates that a person with a very high BDI_TOTAL, so a very depressed person, with very low moods (below 50) while watching ASMR videos and in general would generally have low moods after watching, but is still slightly higher than their daily moods and moods before watching. This means that despite a person's mood in general or while watching ASMR videos, they still end up having a better mood. This could mean that the effects of ASMR videos have a positive impact on a person's mood and therefore a person would feel more relaxed or relieved of stress and maybe even help with their depression or anxiety. The logistic regression model was used to predict the EffectSleep variable by using the BDI_TOTAL, BAI_TOTAL, Mood_Before_watch, and Mood_After_watch variables. For every 1 point increase in the BDI_TOTAL, the odds of ASMR videos helping with sleep increases by 1.06. For every 1 point increase in BAI_TOTAL, the odds of better sleep by watching ASMR videos increases by 1.04. For every 1 point increase in Mood_Before_watch, the odds of having better sleep increases by 0.98. For every 1 point increase in Mood_After_watch, the odds of having better sleep increases by 1.02. Using the model, three observations were used to predict the odds of having better sleep. The first observation has little to no depression or anxiety, and very high moods before and after watching, and yielded a 54% chance of having better sleep. The second observation is slightly more depressed and anxious and has slightly above average moods before and watching ASMR videos, and then had an 80% chance of having better sleep. The third observation was the most depressed with the lowest moods and had a 95% chance of having better sleep. It seems that the more depressed a person is, while having low moods, the better the effect ASMR videos have on helping the particular person sleep. It could mean that the ASMR videos helped with relieving stress, or any sort of depression or anxiety that would aid them in sleeping better, though this isn't really seen with a person who isn't as depressed.