Statistical Analysis of Stress Level Differentiation Based on an Individual's Brain Dominant Hemisphere

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The purpose of this project was to figure out whether or not one’s brain dominant hemisphere affects stress levels. Studies have proven one can change their brain dominant hemisphere; if significant differences in stress levels are shown between the two brain dominant groups, could this mean stress levels could be changed as well? Looking into how each brain hemisphere functions, it was hypothesized left brain dominant individuals are able to handle stress more efficiently. This year's project focused solely on the data analysis as conducted through statistics. This data analysis used the data collected in previous year's of testing, in which human participants' heart rates, blood pressures, and stress rates were noted for future data analysis reference. For the statistical analysis conducted this year, the project worked with three phases. First, a number of T-Tests had been conducted; 8 Paired T-tests, comparing change in stress level analytics, were used to prove that there was a significant difference in every factor tested. Next, a second pair of T-tests (Welch’s Unpaired T-Tests) were used to compare the stress level analytics between the two brain dominant groups. Within this phase, results showed there to be no statistical significance in the differences exhibited by the two groups. Finally, a small set of four participants had their analytics put into an R-code, which was created to determine a participant’s brain dominant hemisphere based on their stress level analytics. This showed to have a 75% prediction accuracy. Because of the contradicting data presented by the three phases of data analysis, the null hypothesis can neither be accepted nor rejected, leaving inconclusive results.

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