Stage

Food & Diet, Coffee

Stage 1 Psychology Research Report Affects of caffeine on reaction time Proposal: Caffeine is used by many people to increase their energy levels. It alters an individual's alertness and their reaction time. Though the most common form of caffeine is coffee, it can also be found in certain soft drinks, chocolate, energy drinks and tea. When a person takes in caffeine, it increases the heart rate, which makes the blood get pumped around the body faster. Many people use caffeine to increase alertness throughout the day. The aim of this research is to investigate the link between caffeine intake and reaction time. Year 11 Psychology Students have participated in the study of a person's reaction time after the intake of caffeine. Participants between the ages of 15 to 17 took part in this study. The class was split up into three randomly allocated groups and each ingested a cup of coffee. One group was given 100% caffeine, another group was given 50% caffeine (half caffeinated, half de-" caffeinated) and the third group was given 0% caffeine (de-- "caffeinated). After half an hour was given, all participated in a reaction time test online. The data that was obtained from the study is objective quantitative data. The data will be presented in tables and box plots; to show how affects the reaction time of the participants. These results will be analyzed and used to answer the question: How does caffeine affect reaction time? Method: Each participant took part in an online reaction time test. This occurred 30 minutes after the consumption of coffee for all participants. Each participant took the test 4 times and then calculated the mean of

their results. Results: Average reaction time, 30 minutes after coffee consumption Percentage of caffeine Reaction time in seconds 0% 0. 57 (0. 51 without outliner) 50% 0. 328 100% 0. 334 Each average was calculated from a sample size of 21 participants between the ages of 15-"18. This table shows that the average reaction time of the students who either consumed 50% or 100% caffeine had quicker reaction times than the group that consumed none (the control group). Discussions: The sample size of this experiment was not adequate to say that our results would be true for everyone. However, the conclusion that the intake of caffeine increases reaction time is generally increased in Year 11 Eynesbury students can be made. Alice Winter Stage 1 Psychology Research Report Affects of caffeine on reaction time The results were not consistent to how many decimal places the participants recorded their reaction times as. Therefore, the accuracy of the results would be altered. This is a random error and to decrease the affect on the results the reaction time test would have to be repeated and each participant would need to consistently record the times. As caffeine is not the only variable that affects reaction time, the reaction time test should have been taken before the participants consumed caffeine as well as after. The difference between these two results would be a better indicator, as the difference of the individuals would lessen. The amount of milk and sugar that the participants had in their coffee, if they had breakfast prior to the experiments, and the amount and frequency of

caffeine the participants normally consume may have also altered the results. Alice Winter