The Effects of Caffeinated and Non-Caffeinated Beverages on the Problem Solving Results of A Virtual Population

Bhagatinder Longia Musab Muhammad Muntasir Munem
Shea Munson Chloe Syriac

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Caffeine is the most popular psychoactive substance in the world, particularly due to its widely known stimulating effects. As a stimulant, caffeine has mostly commonly been used to increase mental alertness. The goal of our is to determine if there is an association between caffeine use and problem solving skills. We collected data using The Islands, a virtual population for testing experiments. [summary of key findings]. [brief overview of results, improvments].

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1 Introduction

Participants assigned a caffeinated drink would be expected to achieve a higher score that those that are not.

In this study, we are analyzing whether there is an association between caffeine use and problem solving skills by giving coffee, energy drinks, and caffeine-free versions of them to participants from the The Islands, a virtual population.

We aim to study the following research questions:

- RQ1: Does beverage type have an impact on problem solving score?
  - Null hypothesis: no association between beverage type and problem solving score.
  - Alternate hypothesis: association between beverage type and problem solving score exists.
- RQ2: Is there an association between the age group the participant belongs to, and the beverage type, on their problem solving scores.
  - Null hypothesis: no association between age group and beverage type on problem solving score.
  - Alternate hypothesis: association between age group and beverage type on problem solving score exists.
- RQ3: Do caffeinated coffee and energy drinks have a higher impact on problem solving scores compared to their caffeine-free counterparts?
  - Null hypothesis: no association between caffeinated drinks and higher score
  - Alternate hypothesis: association between caffeinated drinks and higher score exists.

This paper consist of our methodology, analysis, results, limitations, and a conclusion for our study.