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### Caffeine Consumption, Exercise, and Motivation Kylie Harrison, Amanda Chiarelli, Jaclyn Flynn, Erica Goldstein, Rachel Helfer

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Faculty: Dr Lina Begdache

## Abstract

- Caffeine is a widely used stimulant that is found in coffee, tea, and energy drinks, and is often used to promote awakesness and alertness, as well as for exercise and completing work
- This research aimed to determine if caffeine impact motivation and the way that people exercise, asking the question “does caffeine consumption have an impact on motivation and exercise?”
- A Google Forms anonymous survey was sent out to study participants through word of mouth, GroupMe, email, text, etc. The survey received 150 responses.
- Demographics were examined, including age, gender, location, nutritional habits, motivational patterns, and how often they exercise and consume caffeine.
- Data was analyzed and interpreted using SPSS version 25.0. The results supported our initial hypothesis that caffeine has a positive effect on motivation and energy
- There was a significant positive relationship between the amount of coffee consumed per day and motivation.
- People who consume caffeine for motivation were found to be more likely to consume pre-workout before exercise.

## Introduction

- Caffeine enhances performance and endurance during prolonged exhaustive exercise. Caffeine improves concentration, reduces fatigue and enhances alertness (Paluska, 2003).
- Athletes use caffeine to improve athletic performance, there was a correlation found between the consumption of caffeine and increased exercise performance during endurance, intermittent and strength activities (Martins et al., 2020).
- Mechanical performance of skeletal muscle was enhanced with caffeine consumption which increased muscles power, force, and work capacity (Tallis et al., 2015).
- One study concluded that after caffeine consumption, students perceived themselves to be more awake, clear minded, concentrated and alert but also had increased anxiety levels during the 75 minute lecture than those in a placebo group (Peeling & Dawson, 2007).

## Acknowledgement

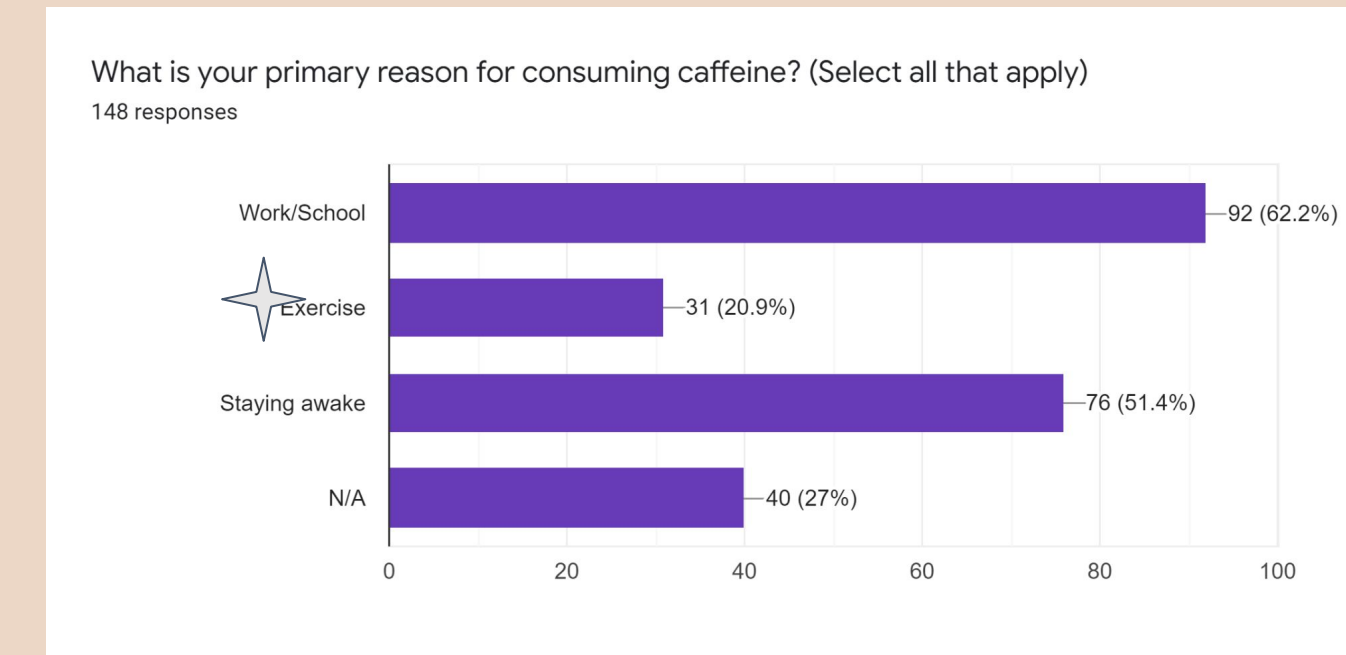
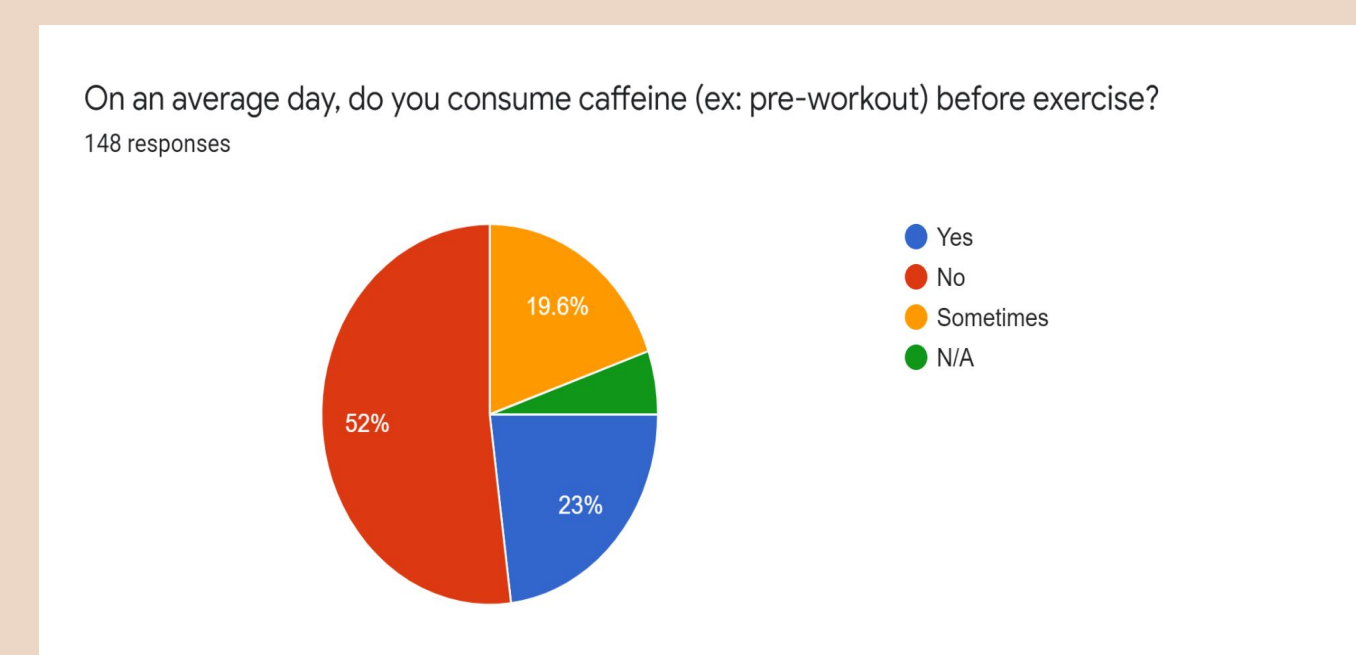
We would like to thank our professor, Dr. Lina Begdache for her support throughout this Course-Based Undergraduate Research Experience in Nutrition

## Methods & Demographics

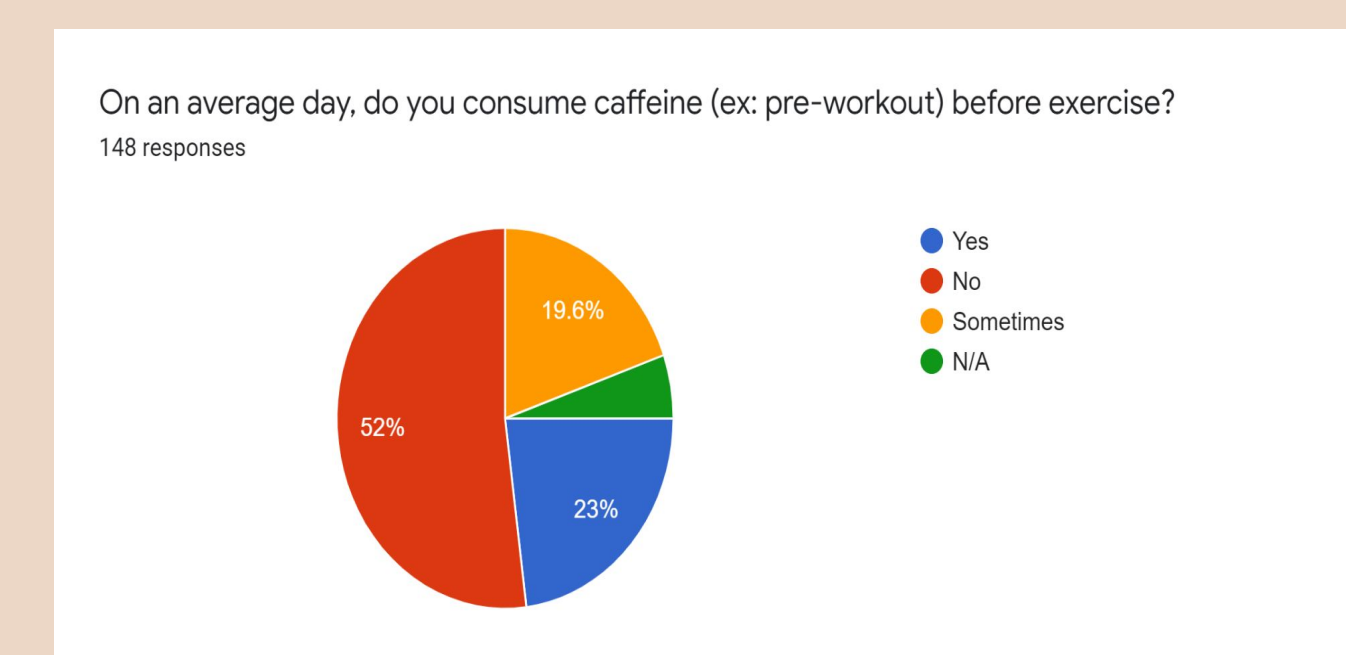
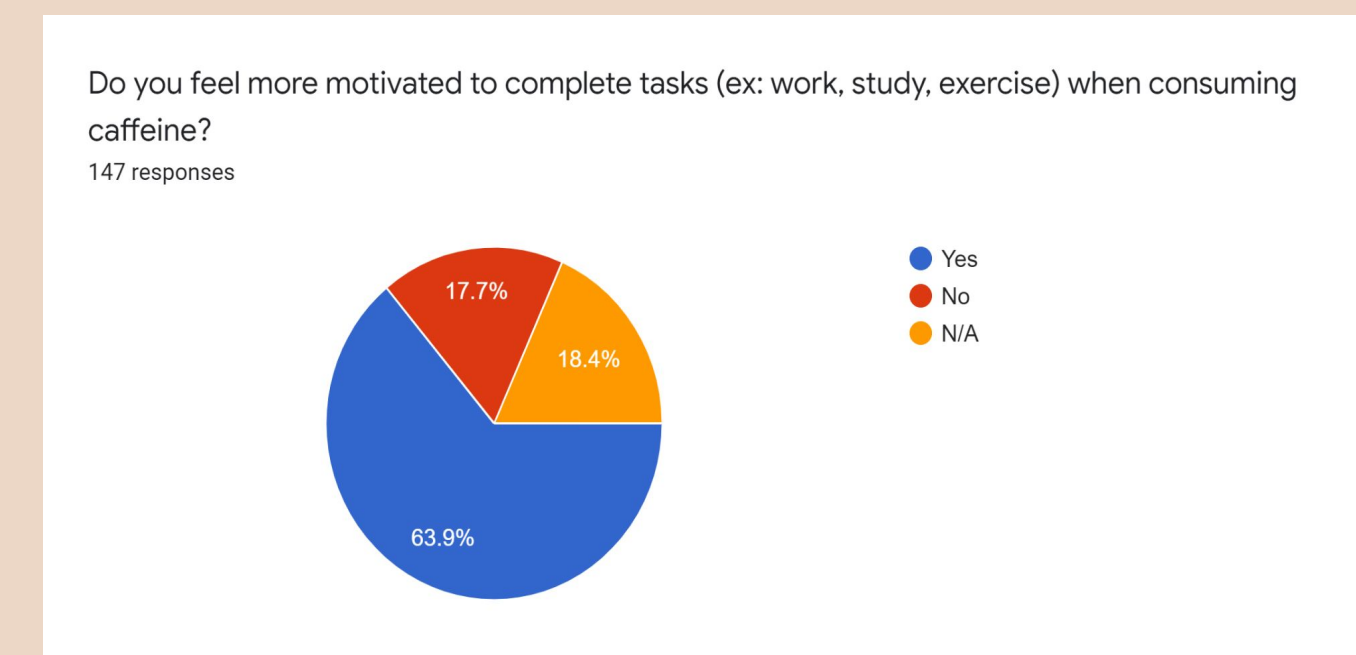
Demographics:	Males (10.7%) & females (89.3%) in North America, 18+, no maximum age limit
Number of Participants:	150
Survey:	Diet, Exercise & Motivation <a href="#">Google Docs Form</a>
Deliverance:	GroupMe, e-mails, text messages, word of mouth, and in person
Statistical Analysis:	Pearson’s Correlation Coefficient, SPSS Version 25.0

## Results

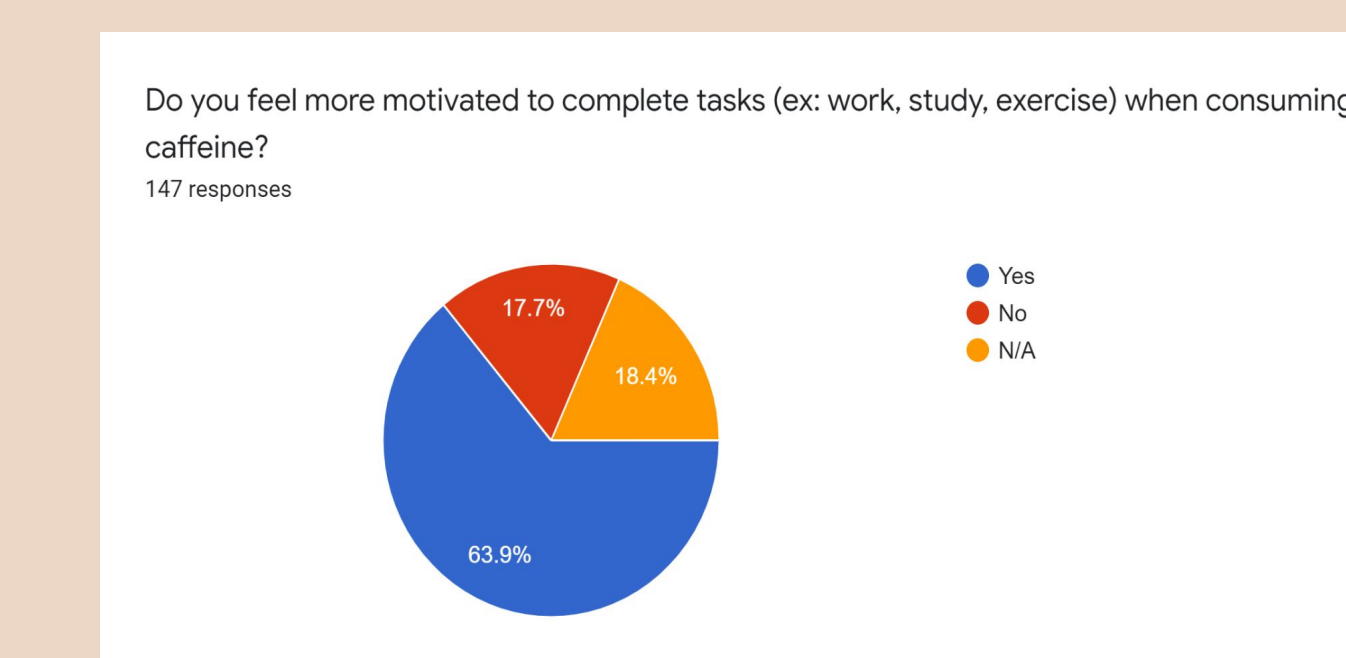
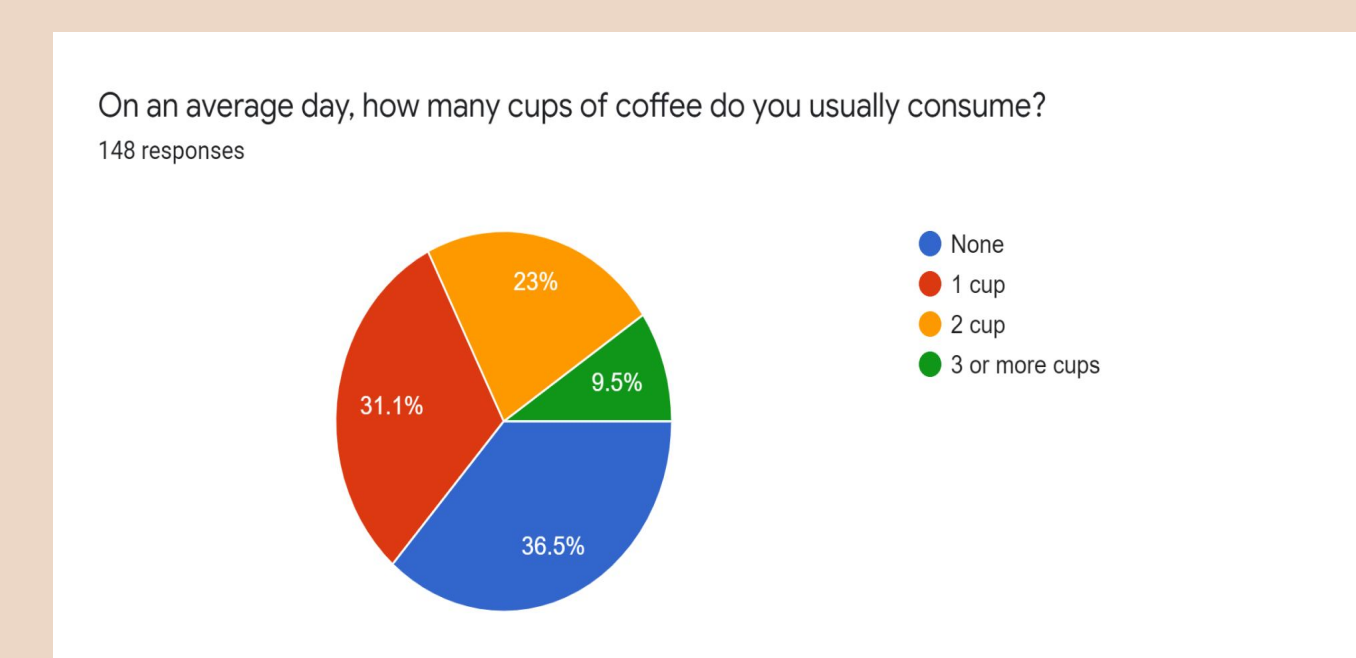
- Using caffeine for exercise positively associated with using pre-workout (.436\*\*)



- People who feel more motivated to complete tasks when consuming caffeine also use pre-workout before exercise (.237\*)



- People who consume more cups of coffee per day are more motivated to complete tasks (.308\*\*)



## Discussion

- Caffeine is the most widely used stimulant in the world
- The effects of caffeine can differ from person to person, with factors like daily habits, genetics, and more, playing a role.
- Our results suggest that caffeine consumption can be linked to an increase in feelings of motivation and enhanced alertness. These effects can directly impact exercise performance.
- Caffeine is able to manipulate some psychological variables and cause a person to enjoy physical activity more.
- Caffeine consumption at low/moderate amounts has the same benefits as high amounts of consumption without the whole-body side effects.

Our suggestions:

- Drink caffeine in moderation for optimal motivation levels
- Use caffeine for a more intense and rigorous workout
- Check the labels of caffeinated products
- Use caffeine rather than other alternative stimulants
- Be aware of the amount of caffeine you are consuming

## Conclusion

- People who consume more caffeine per day are more likely to feel motivated to complete tasks.
- Using caffeine for exercise associated with using pre-workout and increased motivation to complete tasks.
- Further research is to understand more about how caffeine influences motivation to complete tasks and how caffeine impacts quality of exercise



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