Effects of Caffeine Use on Anxiety Among UC San Diego College Students

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Background

- 85% of students had at least one coffee in the first week of instruction, with as much as 90% drinking by midterms.[1]
- 50.9% of college students had a feeling of overwhelming anxiety within the past 12 months.[2]
- Students use caffeine to keep alert and responsive, but the substance is also scientifically linked to higher anxiety rates.[3]

Objectives

- To determine if use of caffeine results in elevated anxiety among UC San Diego students

Methods

- Data collection took place during the Spring 2020 term at UCSD
- Social media (Facebook, Reddit), a student work group platform (Slack), and the FMPH department gave students access to the survey
- 143 responses were recorded in a 2 week period

Results

Table 1: Student Characteristics (n=143)

Gender	
Male	32%
Female	66%
Non-binary	2%
Age	
18-20 years	51%
21-23 years	41%
≥ 24 years	8%
Undergraduate Year	
1st year	28%
2nd year	11%
3rd year	23%
4th year	33%
5th year or more	5%
Major	
Biology	14%
Chemistry	8%
Engineering	13%
Health Sciences	25%
Social Sciences	29%
Data Science	3%
Other	6%
Undeclared	2%

Figure 1: Presence of anxiety before and after use of each caffeinated product

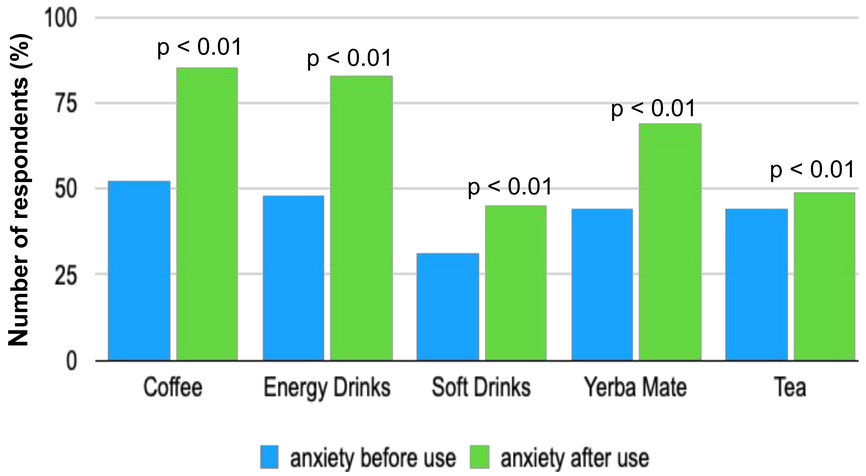


Figure 3: Frequency of student coffee consumption

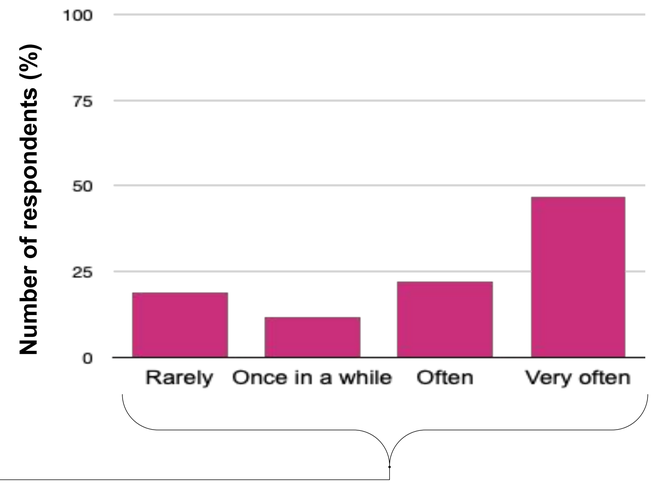
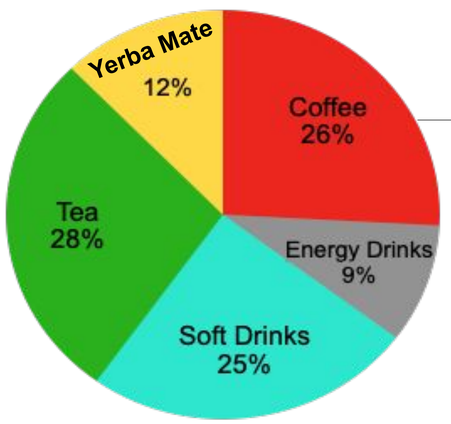


Figure 2: Student use of each caffeinated product in percentages



Figures 2 & 3. Figure 2 (left) provides a breakdown of student use of each product type. Figure 3 (above) places special emphasis on the frequency of coffee use. With 107 student users, coffee is the second most popular caffeinated beverage, and one that also carries one of the highest amounts of caffeine.

51% agreed that the UCSD campus encourages caffeine use, while nearly the same amount (53%) agreed that caffeine use has decreased during the SP20 virtual term

Conclusions

- For all 5 caffeinated drinks, there was a positive correlation with post-use anxiety (all p-values < 0.05).
- Coffee is the second most popular product (n=107) and has one of the highest amounts of caffeine.
- 51% agreed the sources of caffeine on UCSD's campus encourages use, but 53% agreed caffeine use has decreased in the SP20 virtual term.
- Students responded that they felt greater anxiety during the Spring 2020 term (84%), but less caffeine-use during this period (53%).

Policy Implications

- Based on our study's results, a policy limiting the sales of caffeinated beverages could greatly reduce the usage of these products on campus.
- By limiting drink sizes that contain caffeine, or putting a cap on caffeinated beverages per purchase, UCSD can play a significant role in reducing use, and therefore, flattening the curve of anxiety.

Limitations

- Power of study reduced by sample size of 143 students
- Outside contributors to anxiety were not assessed in the pre-use anxiety section for responding
- Surveys based on self-reporting for quantitative data
- Some beverages (energy drinks) had a much smaller user base than others (coffee)

Acknowledgements

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References

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