



Caffeine Beverage Consumption and Overall Sleep Quality among UC San Diego Students

UC San Diego
Herbert Wertheim
School of Public Health and
Human Longevity Science

Alaizza Fortuno, Dianne Canilang, Kelly Cai, Sharmaine Olivarez

Objective

To determine whether there is an association between higher consumption of caffeinated beverages with poorer sleep quality among UC San Diego students

Background

- College students consume up to **850 mg daily** (approx. >8 cups a day); **3-5x more than the recommended daily dose.**
- 60% of college students** have poor-quality sleep with avg. of 6 hours of sleep per night.
- Chronic excessive caffeine intake leads to a sleep duration of <6 hours per night thus leading to a **range of medical comorbidities.**

Methods

- 14-item cross-sectional online survey** was disseminated to UC San Diego students (age 18 or older) from April 28, 2023 to May 5, 2023
- Anonymous survey was advertised through **social media platforms** and **word-of-mouth**
- Exposure Variable:** caffeine beverage intake
- Outcome Variable:** sleep quality score
- Adapted version of Pittsburg Sleep Quality Index** measured: subjective sleep quality, sleep latency, sleep duration, and sleep disturbance
 - Sleep Quality Score: **higher score indicates poor sleep quality with a max of 12**
- Pearson Correlation Analysis IBM SPSS (version 27)**



Results

82.8%

Majority of the participants identified as **female**

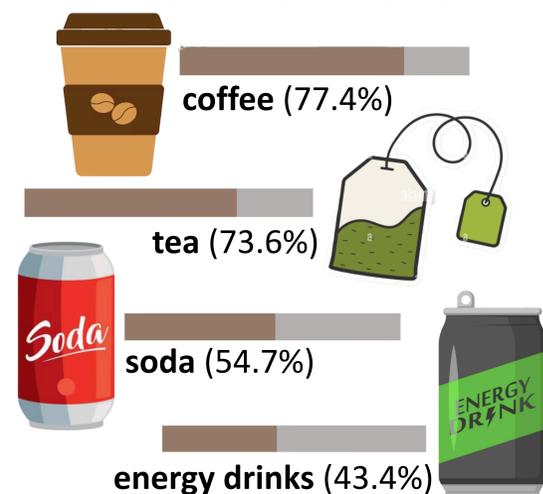
63.8%

rated their overall sleep quality as **fairly good**

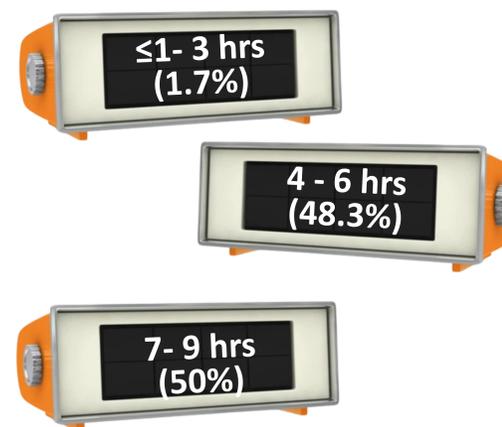
Results

- N = 58** respondents
- 55.2%** were **Asian**, followed by **20.7% Latino/Hispanic**, **17.2% Caucasian**
- Amount of caffeine beverages consumed on a weekly basis:** 1-2 (32.1%), 3-4 (30.2%), 5-6 (13.2%), 6-7 (7.5%), 7+ (17.0%)
- Sleep Latency (Minutes):** ≤15 (34.5%), 16-30 (37.9%), 31-60 (20.7%), >60 (6.9%)
- Avg. Sleep Quality Score** was 4.78 [sd:2.980, range 0-12] (Figure 1)
- Caffeine consumption on a weekly basis was **not correlated** with sleep quality score (Figure 1)

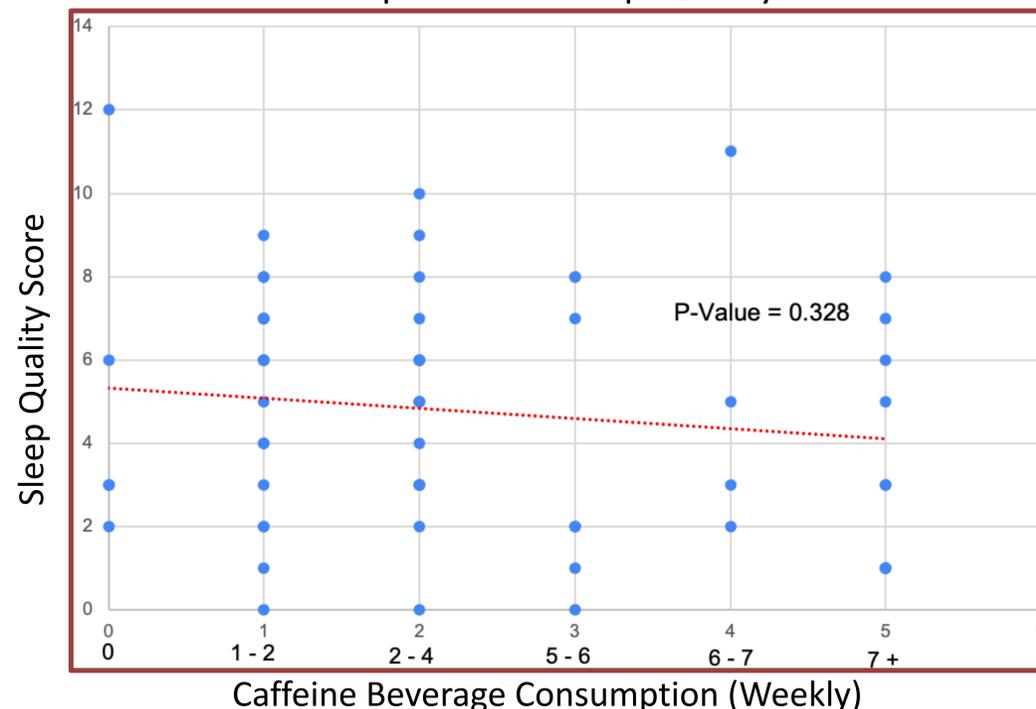
Most Consumed Caffeine Products



Typical Hours of Daily Sleep

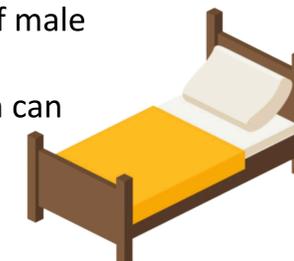


Correlation between Caffeinated Beverage Consumption and Sleep Quality Score



Conclusions

- Our study found **no association** between the increased intake of caffeine beverages and poor-quality sleep.
 - Individuals' **metabolism** to caffeine **varies**, with some people being more resistant and others more sensitive to its effects.
- Further research aims to recruit a **bigger sample size** with a **proportionate number** of male and female participants.
- Timing** on caffeine consumption can be delved deeper and for those who have **sleep disorders.**
 - Possible bias is due to the **small power size and underrepresentation**



Policy Implications

- Community & school health education centers can develop **awareness programs** to demonstrate the negative consequences of high caffeine consumption and sleep deprivation.
 - Universities could disseminate awareness via email, posters, or seminars.
 - Policies for caffeine beverage companies to develop **warning labels** on products regarding potential effects.
- Universities could limit students' access to caffeine beverages by only allowing 5 drinks per week.



Meet the Team



Dianne C.



Alaizza F.



Kelly C.



Sharmaine O.

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