Buzzed and Sleepless: Exploring the Association Between Caffeine Consumption and Sleep Quality in College Students Living in Southern California

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Background

- 60% of undergraduate college students have poor quality sleep.[1]
- Inadequate sleep can lead to higher stress levels, impacting the body's ability to regulate itself; can lead to medical issues over time.[2]
- 92% of college students consume caffeinated beverages.[3]
- Caffeine consumption is linked to poorer sleep quality among college students.[4]
- Gaps in research: how dosage, frequency, and time of day impact sleep quality.

Objectives

- To determine the association between caffeine consumption and sleep quality among undergraduate college students
- To investigate the potential influence of timing, dosage, and frequency of caffeine consumption on sleep quality

Methods

- Cross-sectional study conducted from January 2024-February 2024 (n=117 participants)
- Survey distributed to undergraduate college students, ages 18 and older, via social media (Instagram and Discord), and the UCSD public health email distribution list.
  - Questions inquired about behaviors and perceptions revolving around caffeine consumption and sleep/sleep quality
- Performed Fisher's Exact tests analyzing associations between timing, dosage, and frequency of caffeine consumption and sleep quality

Results

Table 1. Patient Characteristics (N=117)

Age	**N (%)**
18-19	18 (15%)
20-25	91 (78%)
26 or older	8 (7%)
Housing	
On-campus	21 (18%)
Off-campus	96 (82%)
Race/Ethnicity	
White/Caucasian	26 (22%)
Hispanic/Latinx	16 (14%)
Asian	53 (45%)
Black/African American, Other	5 (4%)
Mixed heritage/Multiethnic	17 (15%)
Gender	
Female	73 (62%)
Male	32 (27%)
Non-binary, Prefer not to say	12 (10%)
School year	
1st years, 2nd years	22 (19%)
3rd years	28 (24%)
4th year and up	67 (57%)

Figure 1. Caffeine Consumed Per Day (oz.)

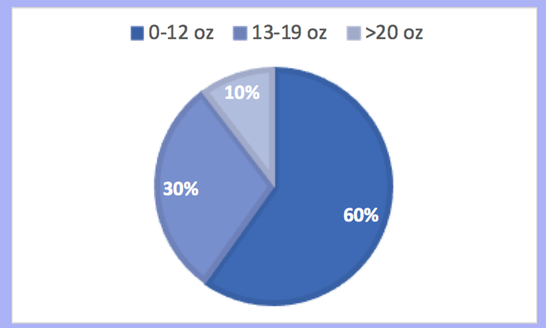


Figure 2. Hours of Sleep Per Day

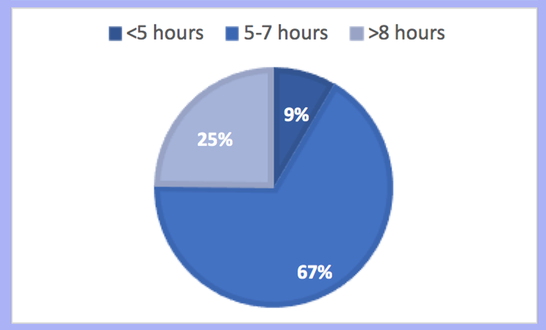
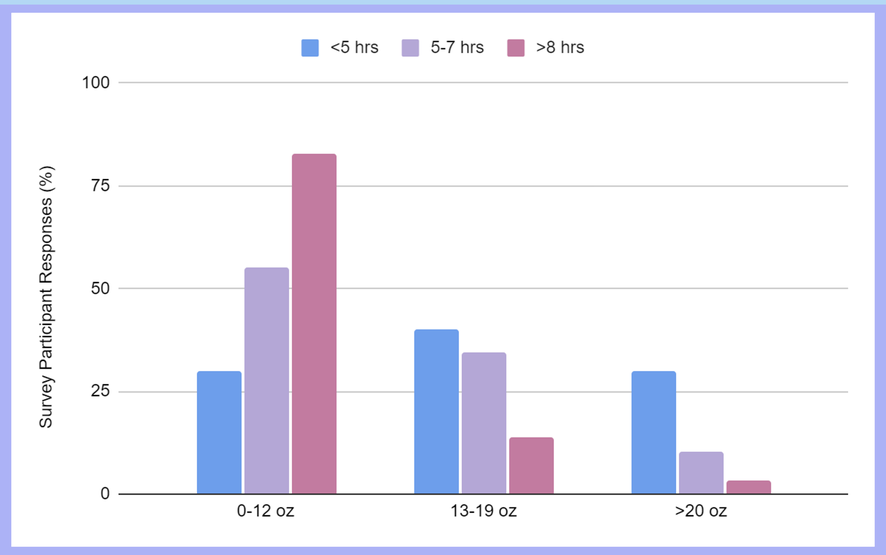


Figure 3. Caffeine Consumed Per Day (oz.) vs. Hours of Sleep Per Day (p=0.01)



Conclusions

Respondents who consumed larger doses of caffeinated beverages were more likely to sleep less hours per day.

- Frequency and timing of caffeine consumption was not associated with sleep quality (data not shown)

Policy Implications

Understanding the impact of caffeine on sleep can inform policies related to sleep education, campus regulations, more transparent marketing on caffeine concentration, and public health messaging.

→Ex: Redesigning how caffeine products are labeled, how and when professors distribute work vs exams, and enhanced support for students struggling with sleep related issues.

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