

An observational study on the impact of caffeine and anxiety in college students



PRESENTER:
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BACKGROUND:

- Anxiety is an increasing common emotion on college campuses characterized by feelings of nervousness and restlessness (Mayo Clinic, 2018).
- In times of stress and anxiety, college students turn to caffeine to help them power through each day (Hughes, 1996).
- Caffeine is a stimulant that affects the central nervous system, which can further induce feelings of anxiety (Pennington et al., 2010).

Hypothesis

It is predicted that observed caffeine consumption has a positive correlation with observed anxious behaviors such as leg bouncing, playing with hair, and zoning out.

METHODS

Design

This study is a naturalistic observational research design between observed caffeine consumption and observed anxious behaviors.

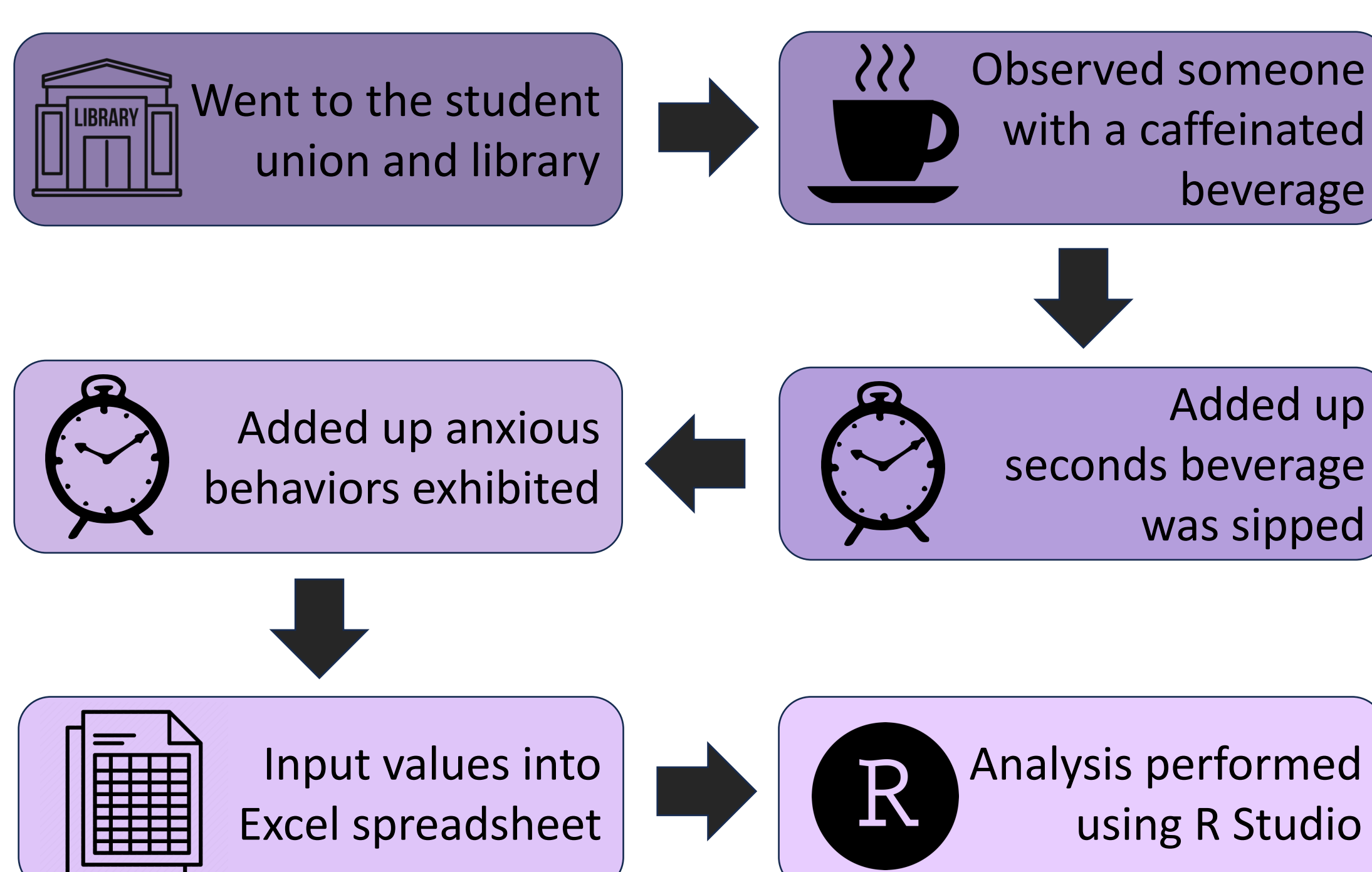
Participants

Participants ($N = 60$) were observed in the student union and McKeldin library. Participants were all presumed to be college students of mixed gender and race.

Measures

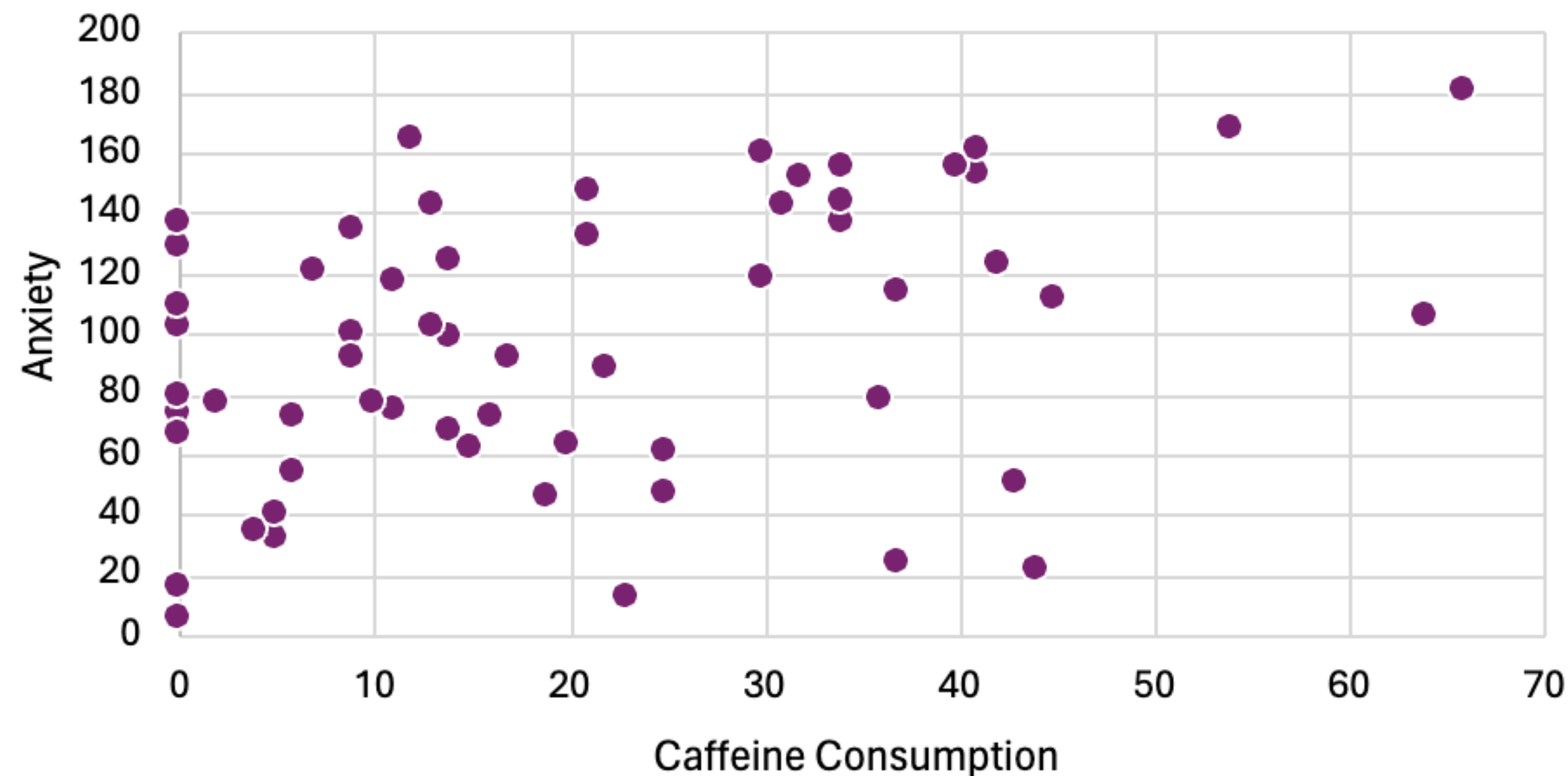
- Caffeine consumption was measured by the amount of seconds the participant sips a caffeinated beverage within the 3 minutes of observation. Caffeinated beverages are defined as energy drinks and coffee.
- Anxiety was measured by the seconds spent exhibiting anxious behaviors in the 3 minutes of observation. Anxious behaviors are defined by bouncing of the leg, tapping of the foot, playing with hair, and continuous zoning out.

Procedure



There is a weak, positive correlation between caffeine consumption and anxiety.

The Effects of Caffeine Consumption on Anxiety



Note: The above scatterplot depicts a weak, positive relationship between observed caffeine consumption and exhibited anxious behaviors of participants ($N = 60$).

RESULTS

- All data collected were used in the analysis ($N = 60$).
- The mean observed caffeine consumption was 20.22 ($SD = 17.07$). The mean observed anxiety was 96.85 ($SD = 45.17$).
- Caffeine consumption was significantly positively correlated with anxiety, $r(58) = .36$, $p < .05$.
- Support was found for the hypothesis.

DISCUSSION

There was a statistically significant finding that students drinking caffeine had a longer time spent exhibiting anxious behaviors, indicating that support was found for the hypothesis.

Strengths and Limitations

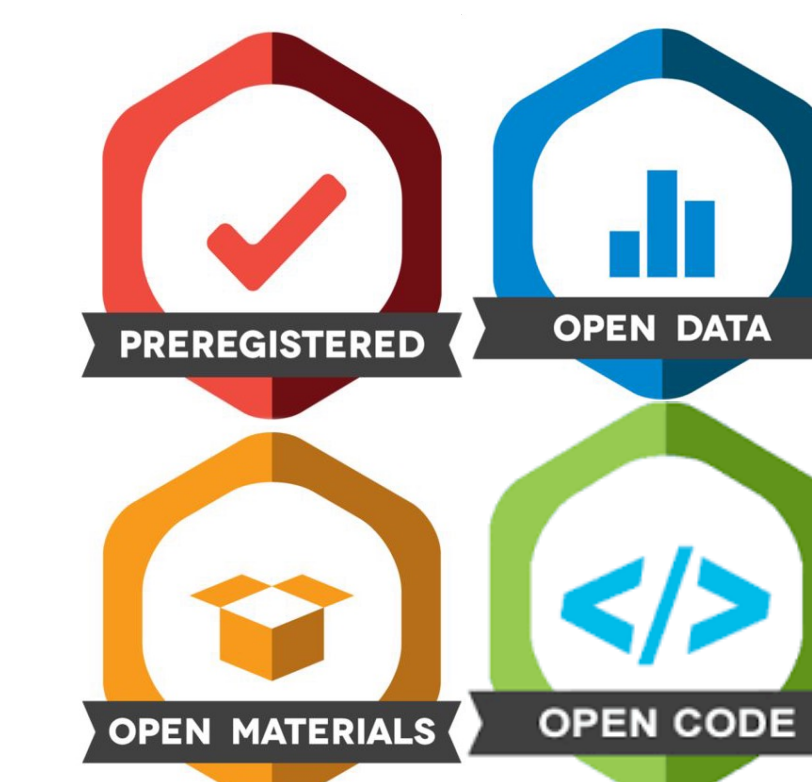
- ➕ Observational research has high external validity
- ➕ Provides a foundation for further, extensive research
- ➖ Limited definition of caffeine and anxiety, making it restrictive
- ➖ No control for confounding and extraneous variables

Future Directions

- This research can be used to inform college students of the effects of caffeine on their health.
- Further research should expand the definitions of caffeine and anxiety in a broader context to make the study more inclusive.
- To best control for extraneous and confounding variables, participants should be assessed in an experimental environment.
- In regards to directionality, it is unsure if caffeine consumption increases anxiety, or if anxiety leads to people consuming caffeine.
- It is possible that these students were stressed due to homework they were working on, which resulted in both caffeine consumption and anxious behaviors.



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