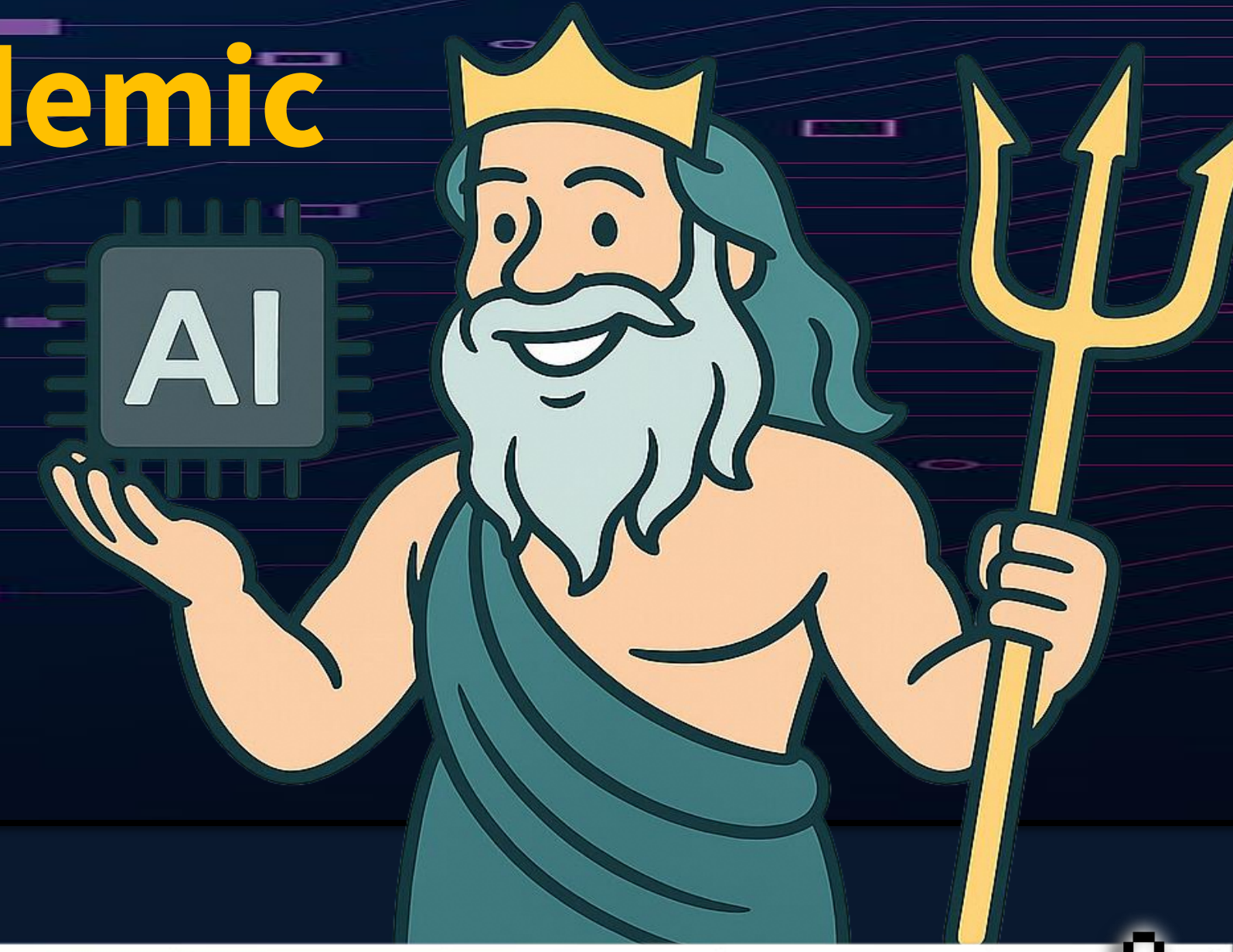# Locked in or Stressed out: The association between AI platform usage and academic stress among UCSD undergraduates

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Objective

To explore the relationship between academic stress and the use of artificial intelligence (AI) platforms among UCSD undergraduate students

Background

- Growing role of technology in the classroom introduces AI to students to use for academic assistance[1]
- **Academic stress**, a psychological response to perceived academic problems exceeding an individual's coping abilities, manifesting as anxiety and pressure from academic responsibilities.
- Approximately **86%** of college students use AI in their studies, with **54%** of students using it on a weekly basis[2]
- More than **58%** of students report experiencing an excess amount of academic stress[3]
  - Represents a large population of students that may turn to **using AI to help in their studies to reduce their stress**
- Despite AI's perceived benefits in learning , a critical gap exists in understanding its direct impact on academic stress; existing literature often presents AI as a "double-edged sword," with unclear implications for mental well-being and self-efficacy

Methods

Cross-sectional Study
- Conducted using an anonymous survey through Qualtrics for undergraduate UCSD students and was distributed via email and social media (i.e., Instagram)

Participant Data
- N = 68, reported their age, gender, academic standing, and area of study (STEM v. non-STEM). Participants rated their frequency of AI and perceptions of their levels of academic stress

Pearson Correlation Test
- via SPSS test was conducted to evaluate the relationship between academic stress levels and stress levels when using AI

Results

Table 1. Demographics (N = 68)	
Age $\bar{x}$ (s)	
21.03 (1.38)	
Gender n(%)	
Male	34 (50%)
Female	32 (47%)
Non-Binary	2 (3%)
Race/Ethnicity n(%)	
Asian	38 (56%)
Middle Eastern or North African	4 (6%)
White	14 (20%)
Hispanic/Latino	12 (18%)
Academic Standing n(%)	
Freshman	6 (9%)
Sophomore	5 (7%)
Junior	14 (21%)
Senior	43 (63%)
Major n(%)	
STEM	49 (72%)
Non-STEM	18 (27%)
Double-Major	1 (1%)

Table 2. Linear Regression results regarding for Academic and AI-Related Stress among UCSD undergraduates

Table 2	Academic Stress only	Academic Stress in relation to AI
Standardized Beta	0.283	–0.010
p-value	0.031	0.942
95% Confidence Upper	0.417	0.179
95% Confidence Lower	0.020	–0.192

Table 2 Findings indicate a statistically significant positive association between AI usage and overall academic stress (unstandardized B = 0.219, CI [0.020, 0.417], p = 0.031), with the confidence interval not including zero, it further supports the positive relationship. Whereas academic stress in relation to AI usage does not significantly predict stress experienced during AI engagement (unstandardized B = -0.007, 95% CI [-0.192, 0.179], p = 0.942) with confidence interval including zero, it indicates no significant effects

Figure 1. Reported Academic Stress Levels With and Without Usage of AI among UCSD undergraduates
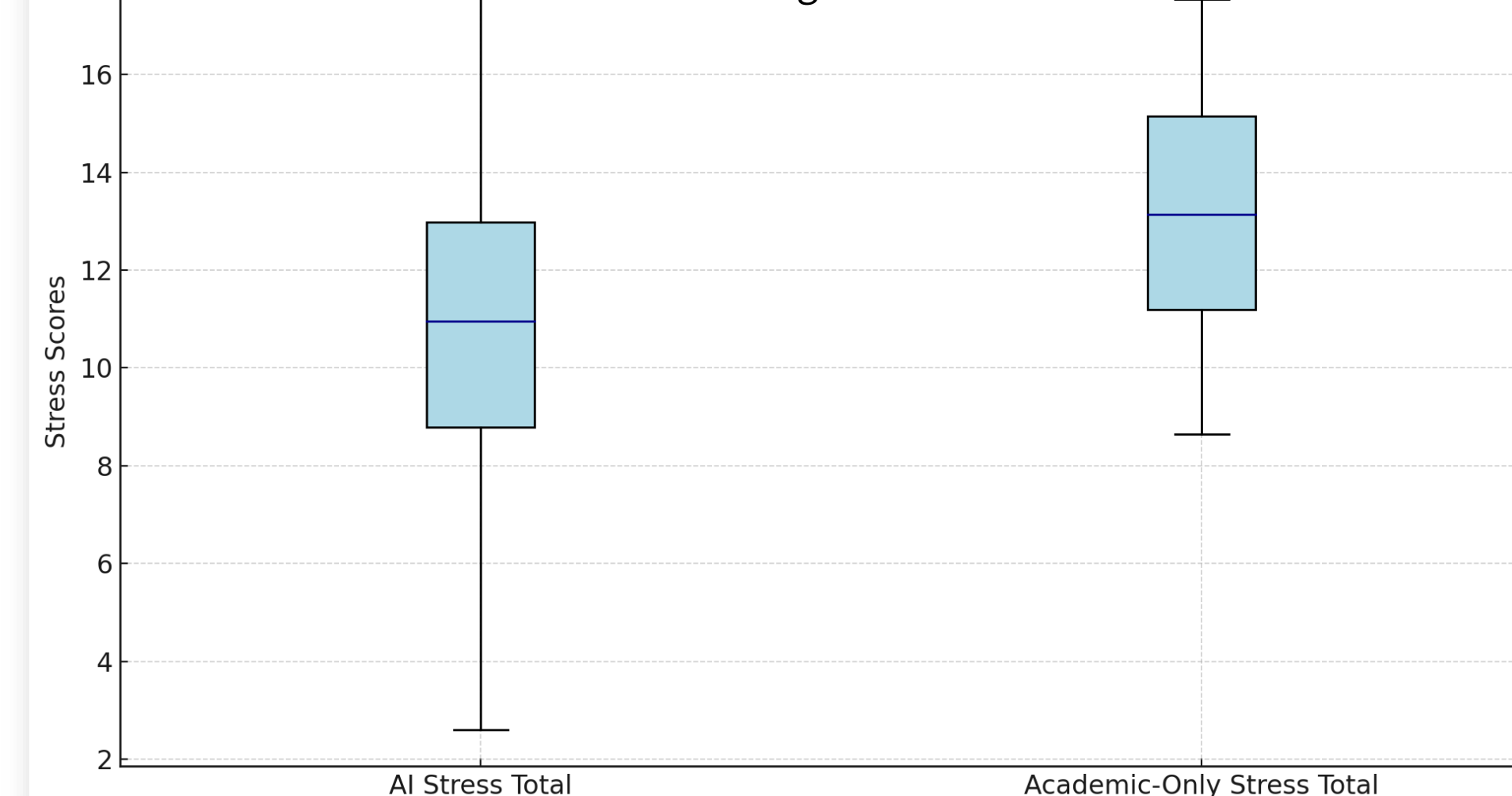
Figure 1. A moderate positive correlation (r = 0.401, p = 0.002) was noted with a mean of 10.58 and 12.83 respectively, suggesting that UCSD students who experience higher academic stress also tend to report increased stress levels when using AI.

Figure 2. Distribution of AI platform usage among UCSD undergraduates
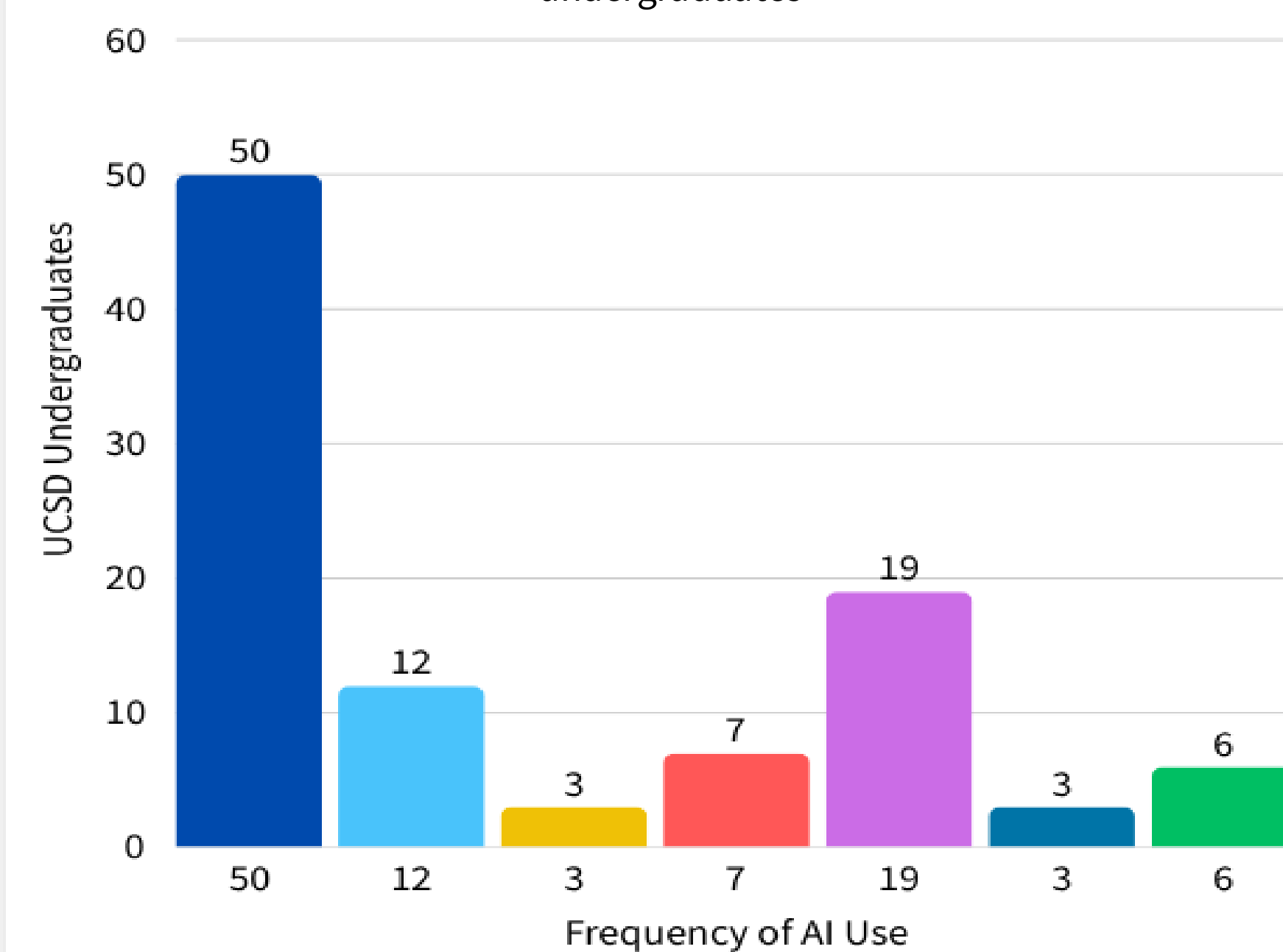
Figure 2. Based on survey responses (n=68), over 90% of students reported using at Least one AI platform for academic support. ChatGPT was the most used tool, followed by Grammarly and Gemini.

Figure 3. Frequency of AI Use in Academic Studies among UCSD undergraduates
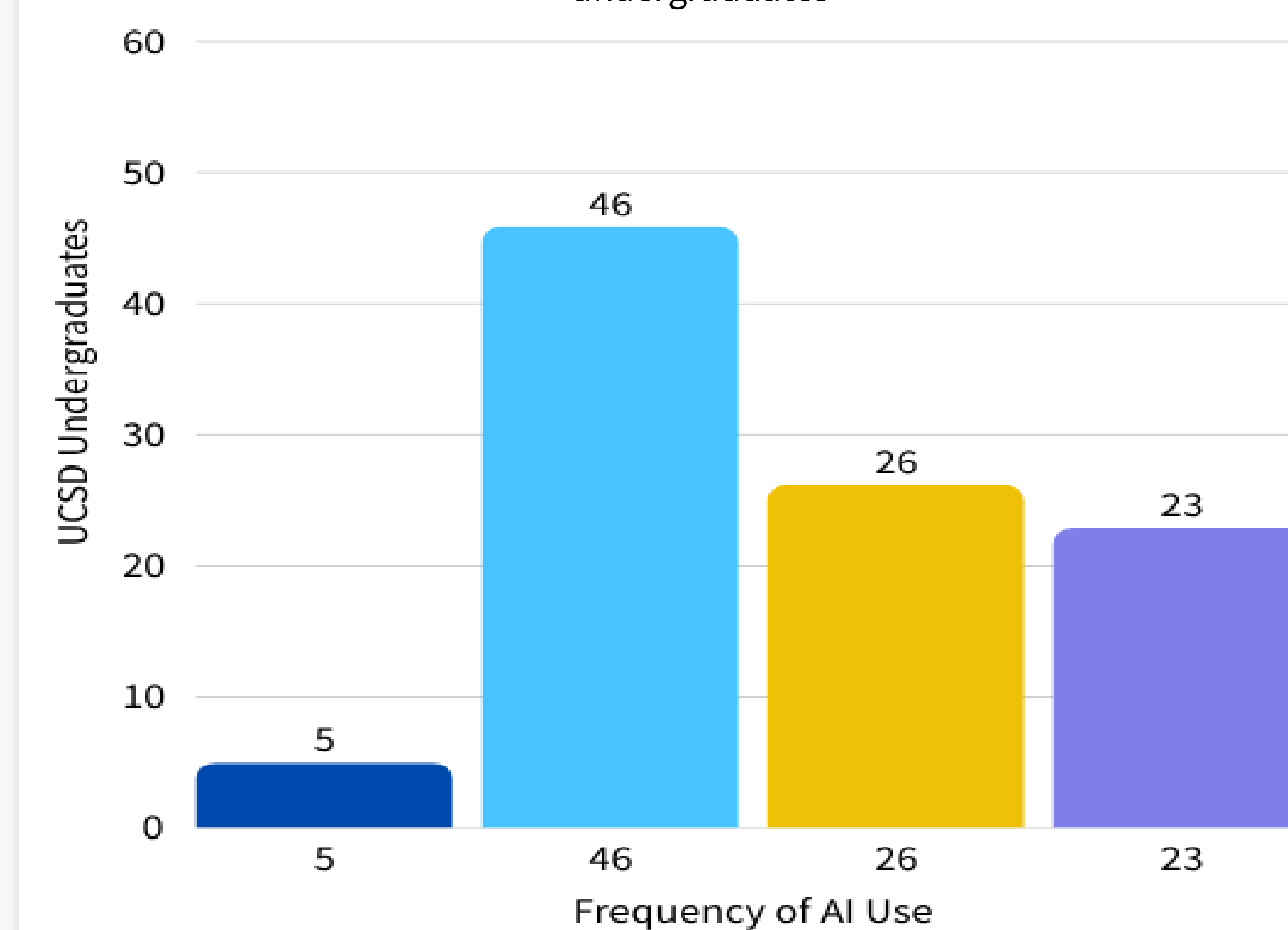
Figure 3. Most students reported they "Occasionally" use AI in their studies. Each level of 'use' was evaluated on a per week basis.

Conclusions

- Students who use AI platforms **more frequently** in an academic setting tend to display, overall, **higher levels** of academic stress
- Initially, the study hypothesized an increase in AI usage would result in a decrease in academic stress based on a previous study describing AI's ability to personalize curriculum and enhance learning through the promotion of specialized learning specific to the needs of the student[6]
  - **Potential reverse causality present**; students with already perceived high levels of academic stress tend to resort to the usage of AI platforms and then must learn how to properly integrate this, **double-edged sword**, tool into their workflow, leading to increased academic stress if unfamiliar with AI platforms

Policy Implications

- Professors should require signed disclosures if AI was used in an assignment
- Videos made by the UCSD office of Academic Integrity that detail the proper use of artificial intelligence and provide students with guidelines to not violate academic policy should be mandated to be watched by students and professors
- The UCSD office of Academic Integrity should have an updated policy and procedures detailing the proper and ethic use of AI within academic settings

Acknowledgments

References