

# SMART USE OR OVERUSE? HOW STUDENTS'

## AI PATTERNS SHAPE LEARNING

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### INTRODUCTION

The use of generative AI, such as ChatGPT, has become a common practice in academic settings among students to aid in productivity and enhance learning practices. The growing popularity and application of ChatGPT has elicited questions regarding the extent to which students rely upon AI, acknowledging that overdependence on AI could impede students' formation of critical skills and overall knowledge acquisition.<sup>3</sup> The present body of research involving students' use has primarily gathered self-report data about patterns of use, neglecting to lend much attention to the content of the interactions between students and AI tools.<sup>2,6</sup>

### BACKGROUND

- Generative AI, such as ChatGPT, has become an increasingly used tool utilized by students to aid in efficiency and learning in their academic coursework
- Emerging concerns about overdependence on AI raises questions about the potential for students' learning to be inhibited, particularly regarding the acquisition of essential competencies and overall knowledge<sup>1</sup>
- One study investigated ChatGPT use among undergraduate students while completing a source-based writing task, revealing an association between pattern of student interaction with ChatGPT and performance on the task<sup>4</sup>
- The current study intends to fill the gap in prior research regarding the role of students' confidence in writing ability and held epistemic beliefs, which inform a person's appraisal and application of knowledge

### RESEARCH QUESTIONS

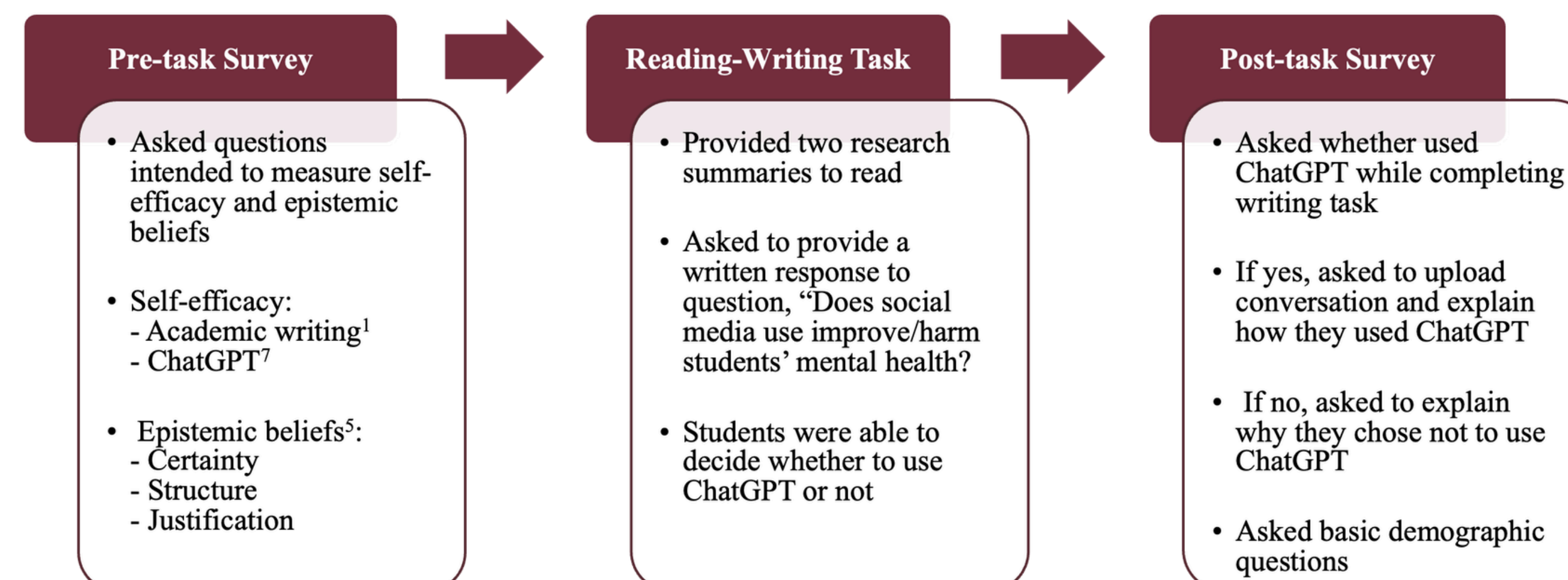
**RQ1:** To what extent do individual differences factors (e.g., epistemic beliefs, writing self-efficacy) differ between students who elect to use ChatGPT during a reading-writing task and those who do not?

**RQ2:** Among students who elect to use ChatGPT, how do they report using it in their reading writing process?

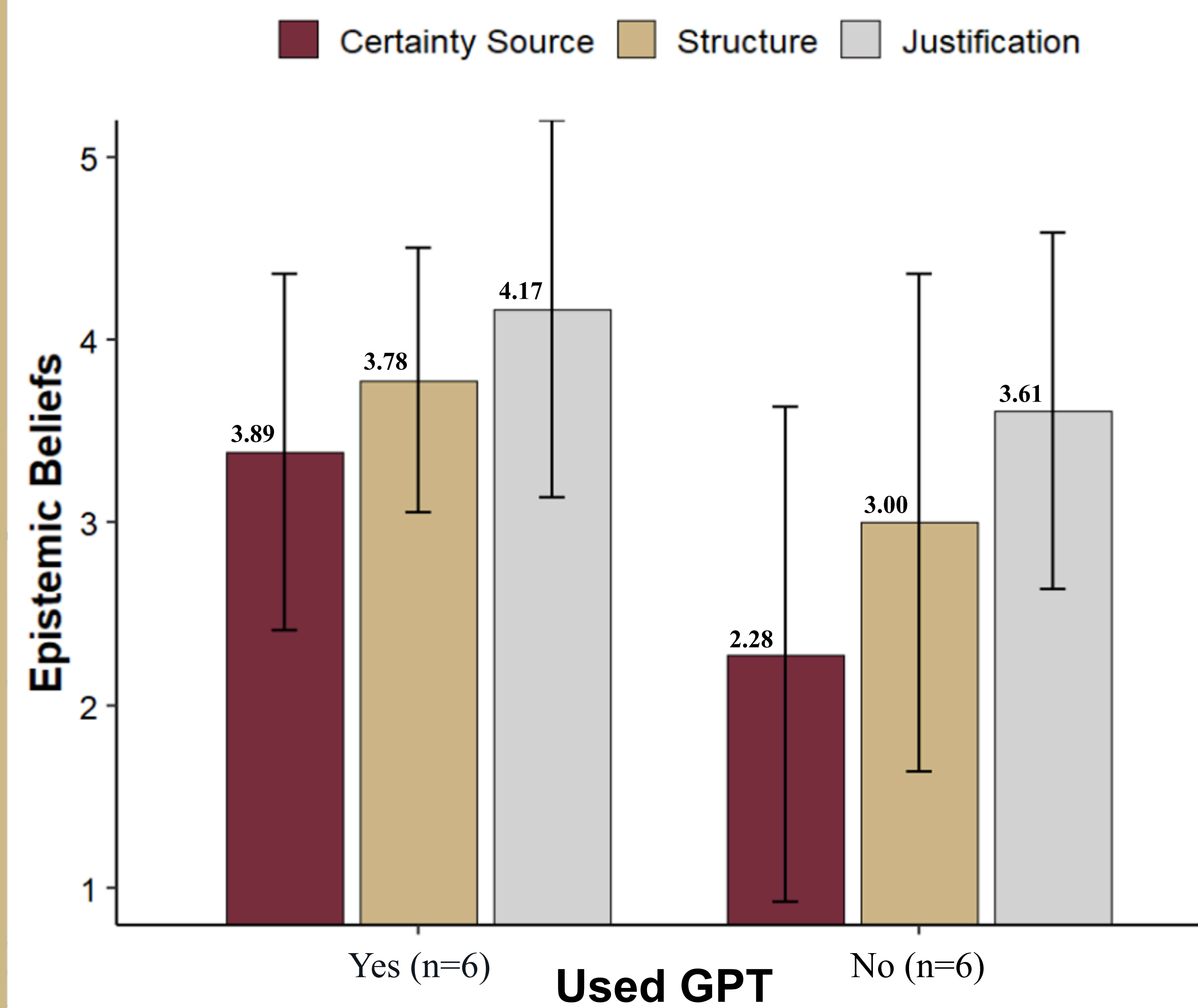
**RQ3:** Among students who elect not to use ChatGPT, what primary reasons do they report for their decision?

### METHODS

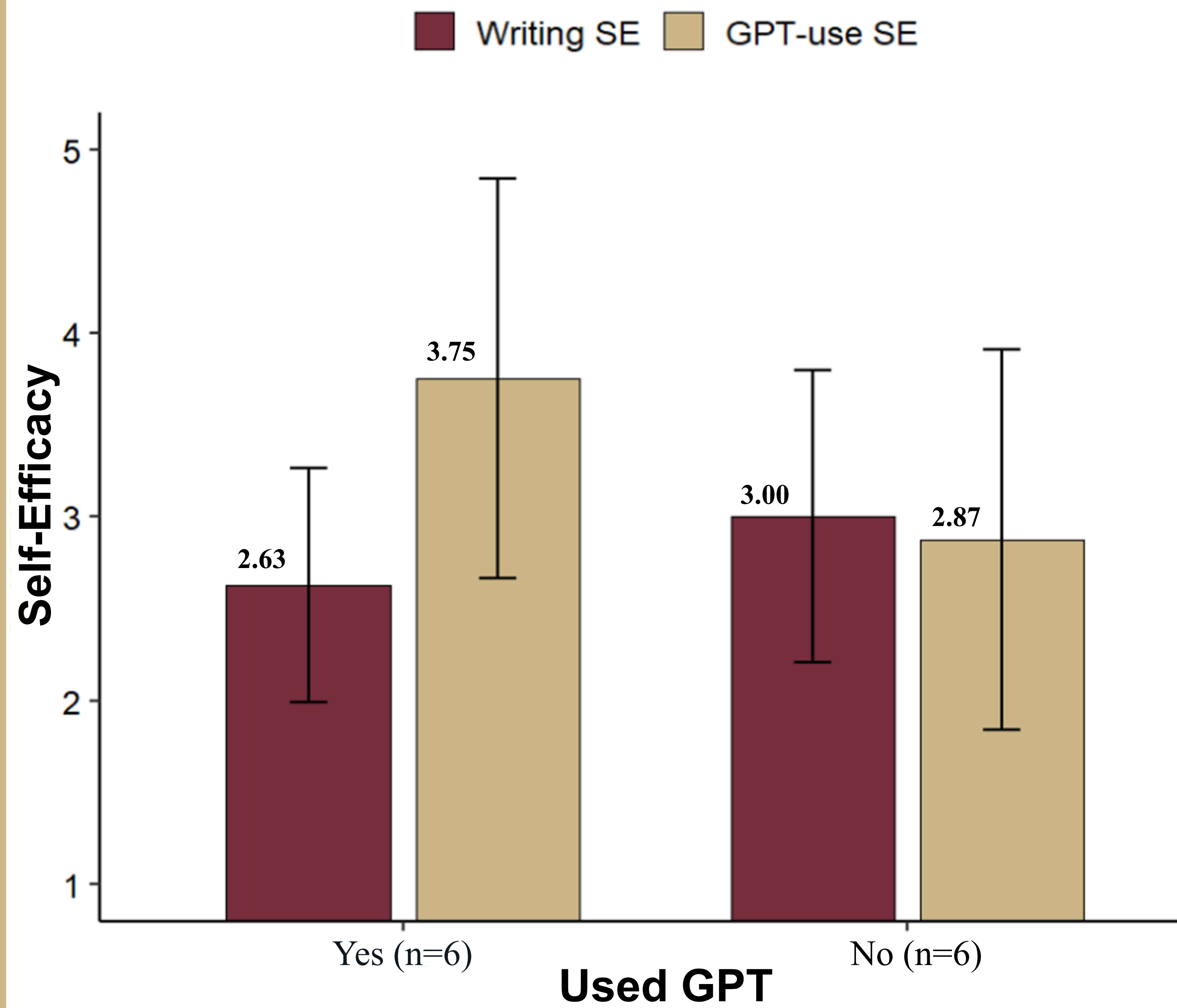
- **Participants:** This is an ongoing study. We anticipate to recruit 200 undergrad students via Sona.
- **Current sample size:** N =12
- **Materials:** Qualtrics survey with two brief research summaries discussing the pros and cons of social media use and mental health



### A. Epistemic Beliefs by GPT Use



### B. Self-Efficacy by GPT Use



### PRELIMINARY RESULTS

**RQ1:** Epistemic beliefs and self-efficacy between users and non-users (this is only descriptive)

**A)** Those who used GPT had a higher mean of reported epistemic beliefs concerning certainty, source, and justification of knowledge from GPT than those who did not use GPT.

**B)** Those who used GPT had a lower mean self-efficacy in writing than those who did not use GPT. Additionally, the participants who used GPT had a higher average in reported self-efficacy regarding GPT use than those who did not elect to use GPT.

**RQ2:** Reporting themes among students who elected to use ChatGPT

Structure argument:

- "I used it to help me structure an argument with a good flow to it"

Summarize articles:

- "I asked it to summarize the main points being communicated by both articles"

Spelling/Grammar:

- "I used ChatGPT to tighten my wording, correct my grammar..."

**RQ3:** Reporting themes among students who did not elect to use ChatGPT

Fear of becoming overreliant:

- "...I'll get into the bad habit of letting AI think for me"

Felt use was unnecessary:

- "I was able to use my own personal experience...and did not need to do any further research"

Intellectual property:

- "...using ChatGPT would make it not my words"

### NEXT STEPS

When data collection is complete we plan to:

- Code the conversations between students and ChatGPT
- Code the written arguments
- Use structural equation modeling (SEM) to investigate whether the differences in epistemic beliefs and self-efficacy predict students' patterns of interaction with ChatGPT in addition to further predicting the quality of the written argument

### ACKNOWLEDGEMENTS

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### REFERENCES

1. Graham, S., Harris, K. R., & Mason, L. (2005). Improving the writing performance, knowledge, and self-efficacy of struggling young writers: The effects of self-regulated strategy development. *Contemporary Educational Psychology, 30*(2), 207–241. <https://doi.org/10.1016/j.cedpsych.2004.08.001>
2. Naznin, K., Al Mahmud, A., Nguyen, M. T., & Chua, C. (2025). ChatGPT Integration in Higher Education for Personalized Learning, Academic Writing, and Coding Tasks: A Systematic Review. *Computers, 14*(2), 53. <https://doi.org/10.3390/computers14020053>
3. O'Donnell, F., Porter, M., & Fitzgerald, D. S. (2024). The Role of Artificial Intelligence in Higher Education: Higher Education Students use of AI in Academic Assignments. *Irish Journal of Technology Enhanced Learning, 8*(1). <https://doi.org/10.22554/szwjfy54>

