

The Future of Education: Leveraging ChatGPT to Enhance Teaching and Learning

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Our Gratitude

- The 2023 TIP Grant Award Committee
- Dr. Jeffrey Morgan**, Associate Provost for Education Innovation and Technology, Office of the Provost
- Dr. Teresa Acosta**, Director, Faculty and Departmental Instructional Support (FDIS)
- Dr. Daniel O'Connor**, Submitting Dean, CLASS

ChatGPT

- **ChatGPT** (Chat Generative Pre-trained Transformer) is a language model. It's a type of artificial intelligence (AI) to process and generate human-like texts or conversations. It can be used as chatbots, virtual assistants, content generators, language translators, etc. to facilitate human-computer interactions via natural language conversation.
- **Initial release/launch date:** November 30, 2022
- **Programming language:** [Python](#)
- **Developer:** [OpenAI \(chat.openai.com\)](https://chat.openai.com), [Microsoft Corporation](#)
- **Current engines/versions:** GPT-3.5 (Free) & GPT-4 (Paid)



The goal of the Grant Project



- Explore **factors** related to the disruptive challenges of ChatGPT in education
- The technology imperative or determinism? The technology becomes the driver of change; it is the origin of all the cascading changes. Once shown to be possible and useful and with promotion, it becomes inevitable that we adopt the technology. Over time, it even becomes a moral obligation and the prevailing way of doing things (e.g., computers and smart phones).*
- ChatGPT, a new technology, represents numerous possibilities to education and is irresistible to educators or all human beings!



Key Areas of Focus of Our Project

1. Engaged Learning
2. Effective Assessment
3. Enhancing Accessibility
4. Collaborative Learning
5. Skill Development
6. Instructional Support
7. Ethics and Privacy
8. Long-term Outcomes



1. Engaged Learning: Examine how ChatGPT can be utilized to tailor each student's individual learning and needs, thereby promoting a more engaging and effective learning experience.
2. Effective Assessment: Create effective assessment activities to gauge-student learning in alignment with societal needs.
3. Enhancing Accessibility: Explore the potential of ChatGPT to facilitate equitable access to rich resources related to course objectives and research projects to improve educational quality.

4. Collaborative Learning: Investigate the role of ChatGPT in fostering collaborative learning environments, where students and teachers can work together more effectively through AI-mediated communication and resource sharing.
5. Skill Development: Evaluate the impact of ChatGPT on the development of critical thinking, problem-solving, and communication skills, as well as its potential to nurture a growth mindset in learners.
6. Instructional Support: Assess the ways in which ChatGPT can augment teachers' efforts by providing timely assistance and feedback to students to increase the interaction between faculty and students.

7. Ethics and Privacy: Address the ethical considerations, data privacy concerns, and potential biases in AI-driven educational systems, while proposing guidelines and best practices to ensure the responsible use of ChatGPT in education.
8. Long-term Outcomes: Analyze the potential long-term effects of ChatGPT integration on educational outcomes, including student performance, teacher competence, and the overall value of education.

Plan and Progress

Grant period:

- Fall 23 – Spring 24

Participating classes (5):

- COMM 1302 (Intro to Comm Theory; Fall 23/Spring 24, Asynchronous)
- COMM 3349 (Nonverbal Comm, Spring 24, Face-to-Face)
- COMM 3353 (Information and Comm Technologies, Fall 23/Spring 24, Asynchronous)

Number of students:

- A total of 230 (100/Fall 23 + 130/Spring 24)



Fall 2023

- Developed and administered a pre-survey questionnaire as part of class projects

Students engaged in:

- Signing up a ChatGPT account at OpenAI
- ChatGPT training via popular online tutorials (2)
- Asking ChatGPT the (same) questions concerning the class materials/relationship matters and sharing thoughts about ChatGPT answers
- Writing essays with or without help of ChatGPT
- Taking exams with or without help of ChatGPT
- Filling out the same pre-survey questionnaire at the end of the semester




Spring 24

- Students fill out an updated questionnaire (mostly the same items)
- Do the same or similar activities (e.g., the type of assignments may change)

COMM 3349

-Take tests using ChatGPT

-ChatGPT assignments weekly.



PROS & CONS of Using ChatGPT

- ✓ Reduced Time and Effort for Tasks
- ✓ Ease of Use
- ✓ Speed and Efficiency
- ✓ Cost-Effective
- ✓ Personalization
- ✓ Analytics

- ✗ Lack of Emotional Intelligence
- ✗ Limited Context and Knowledge
- ✗ Security Risks
- ✗ Inexperience
- ✗ Technical Glitches

Preliminary Data Analyses and Results

Pre- & Post-Test Surveys Data

- Respondents:

N = 161 (95/66)

Gender:

- Male = 51 (32/19) (32%)
- Female = 98 (57/41) (61%)
- Non-binary = 11 (5/6) (7%)
- NR = 1 (1/0) (1%)

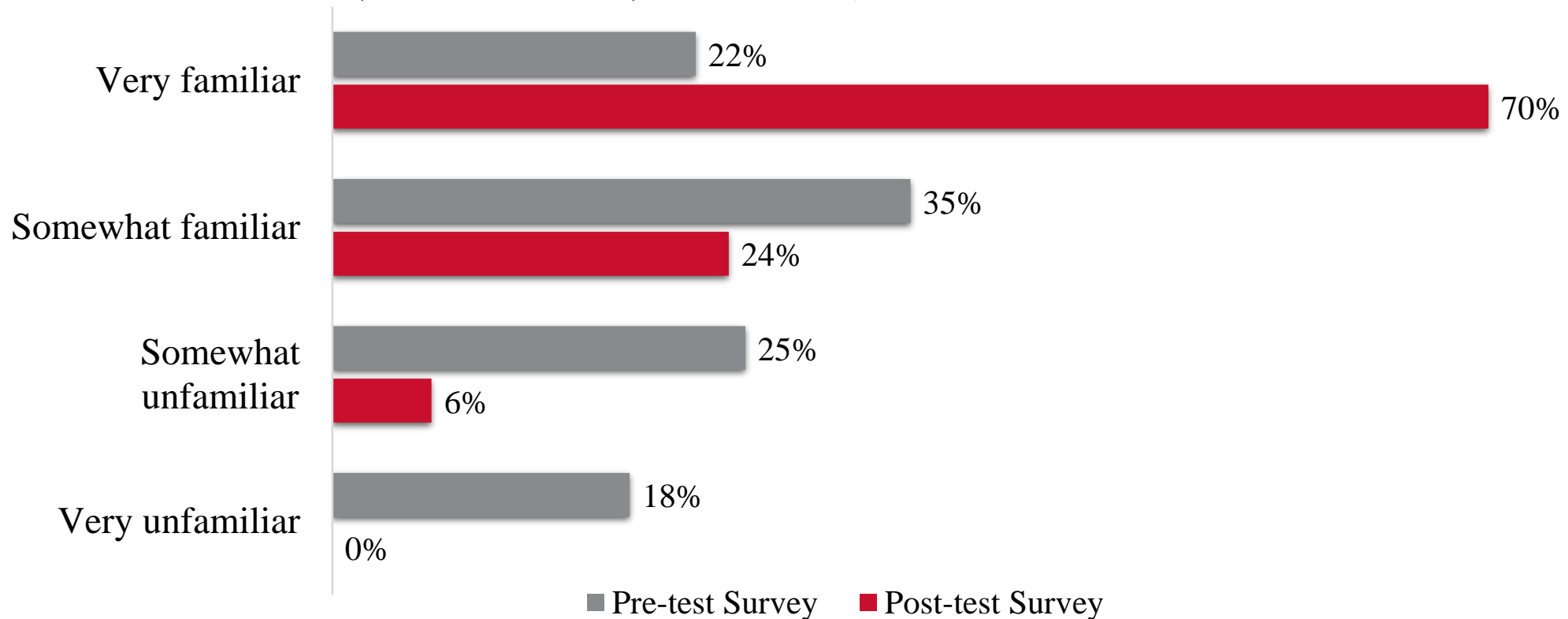
Age:

- 18-24 years old = 130
(78/52) (81%)
- 25-30 = 25 (14/11) (16%)
- 31+ = 4 (2/2) (2%)

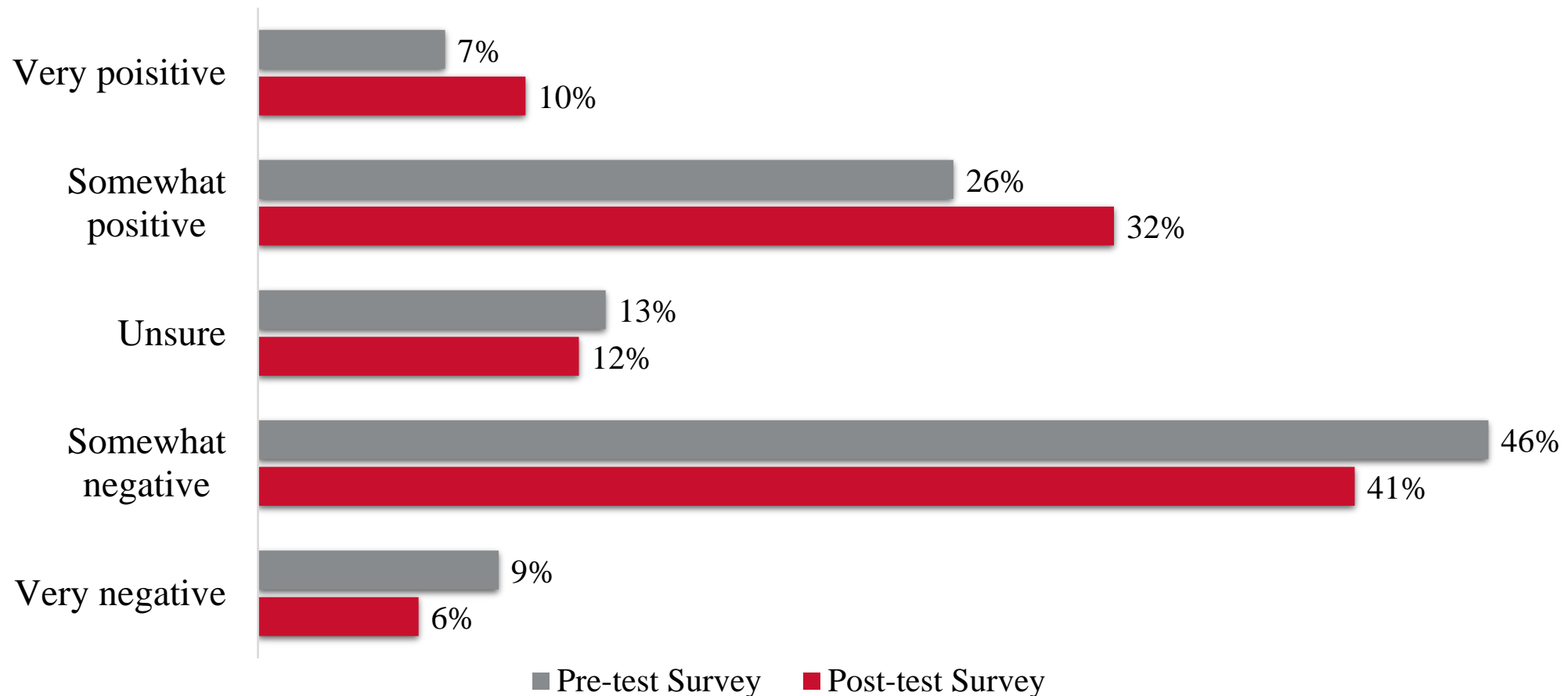
Q9-How familiar are you with Open AI ChatGPT?

(Mean = 2.61 vs. 3.64, SD = 1.02 vs. 0.60, $F(1, 159)=53.47$, $p<.001$;

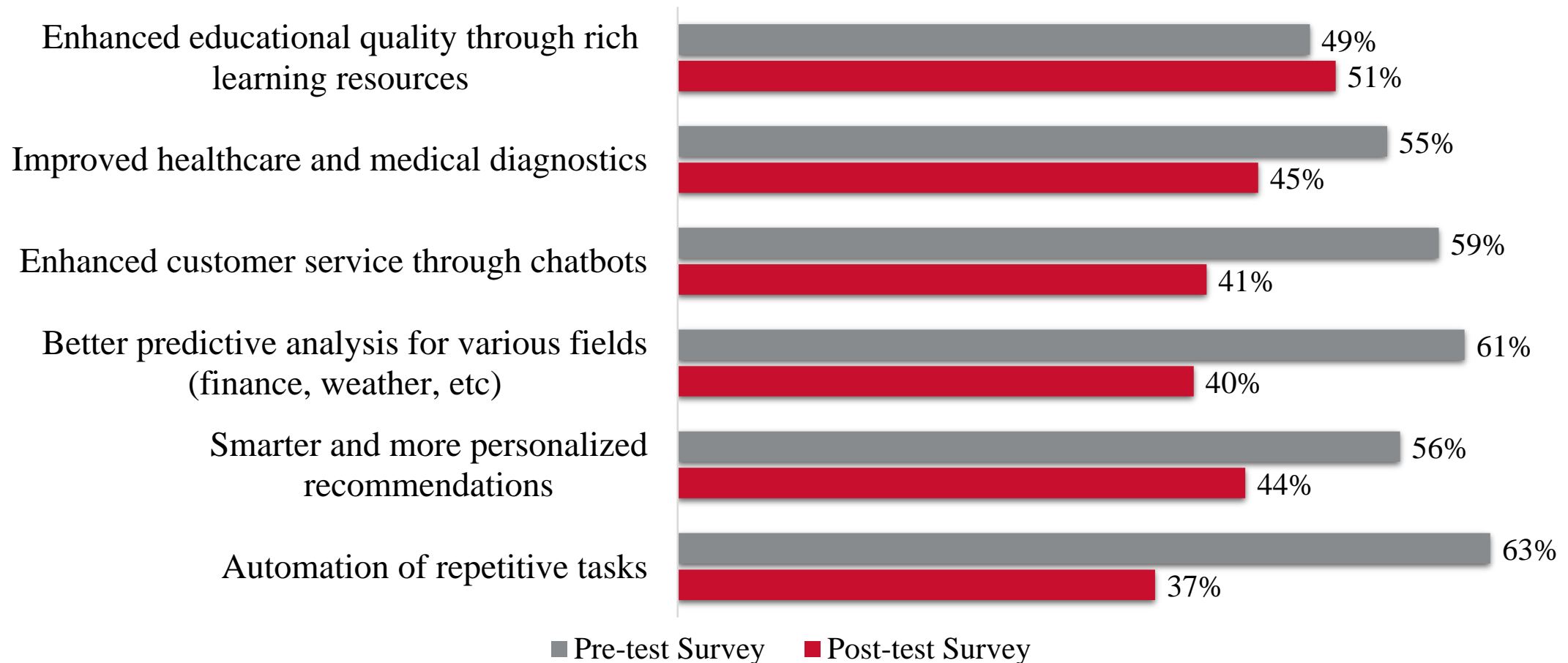
Total Mean = 3.03, SD = 1.01, N = 161)



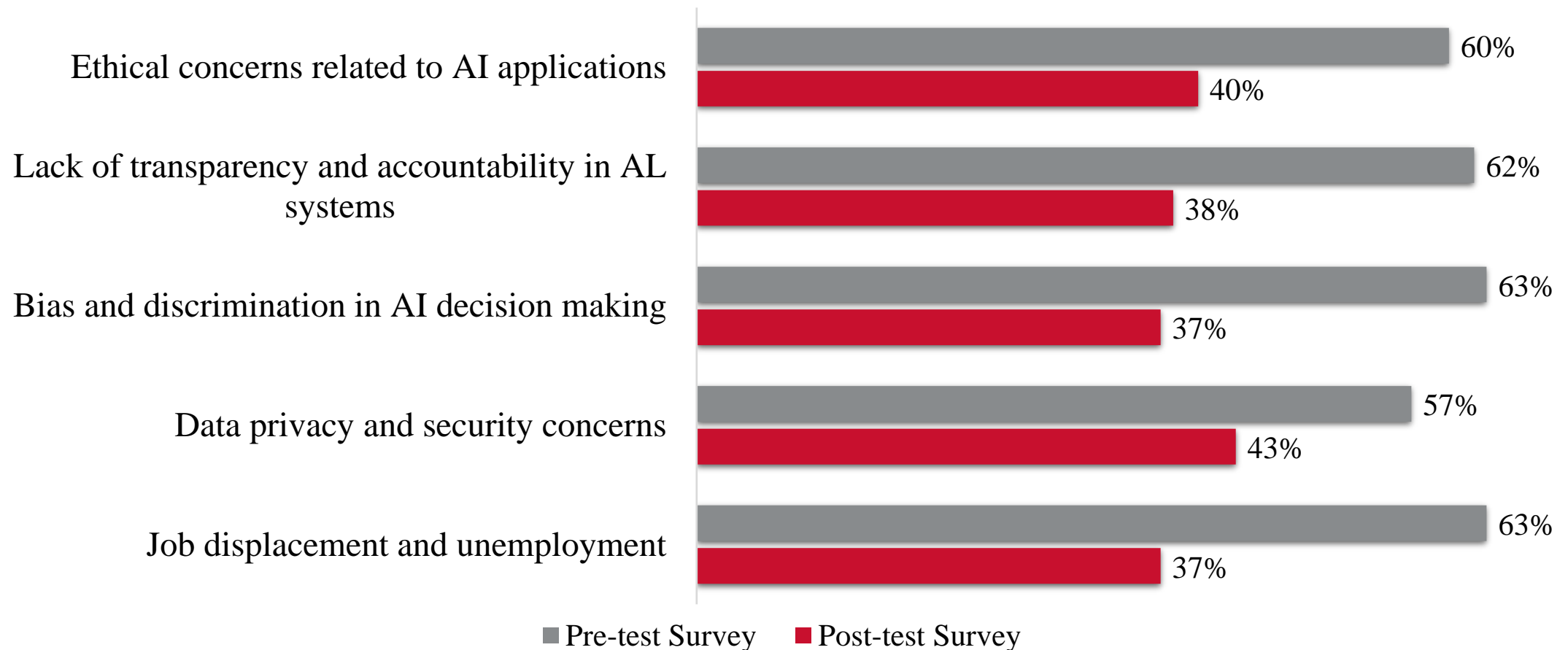
Q20-How do you perceive the impact of AI on job market and employment opportunities? (Mean = 2.75 vs. 2.97, SD = 1.13 vs.1.16, $F(1, 157)=1.39$, ns; Total Mean = 2.84, SD=1.15, N = 161)



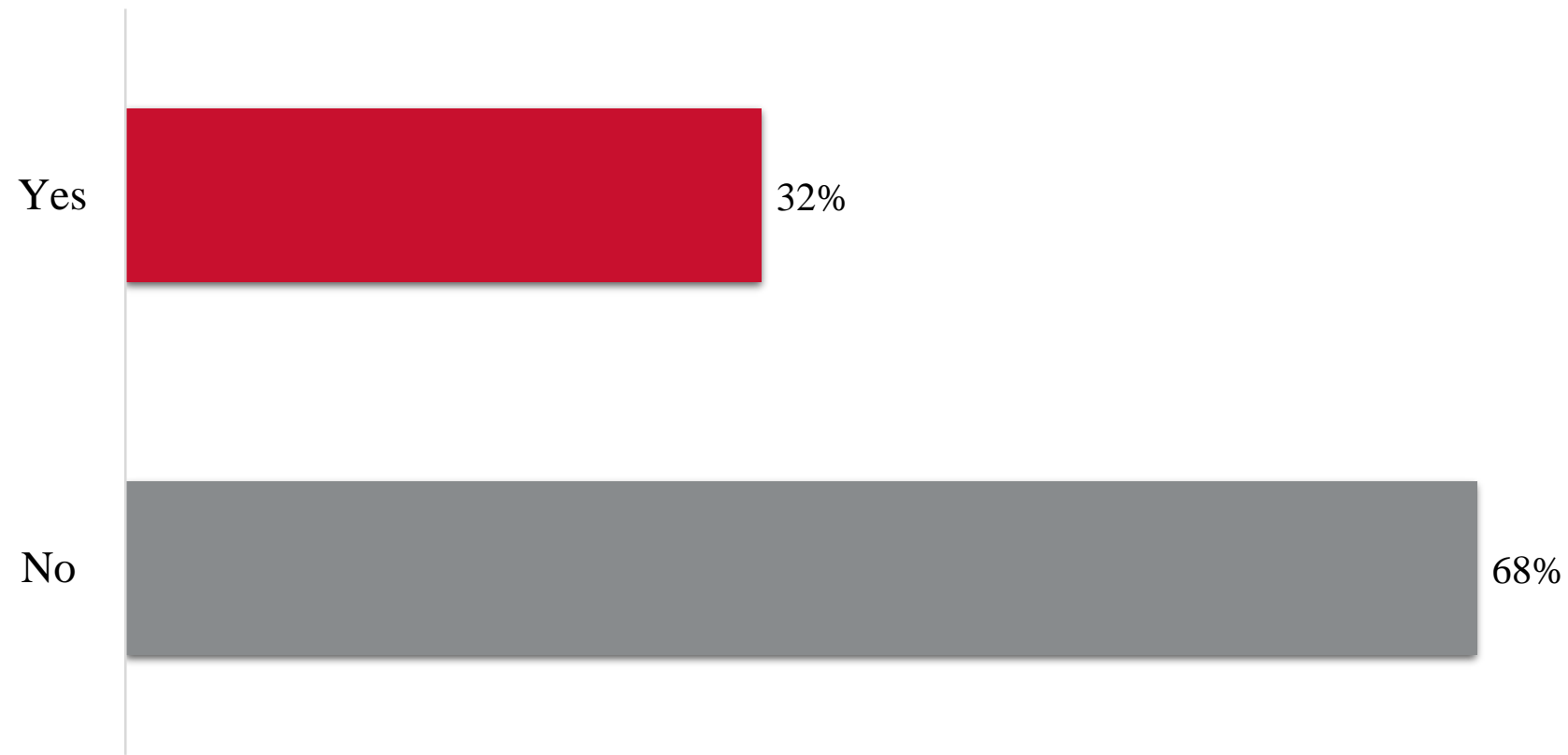
Q22-What do you think are the potential benefits of AI technology? (Check all that apply.)



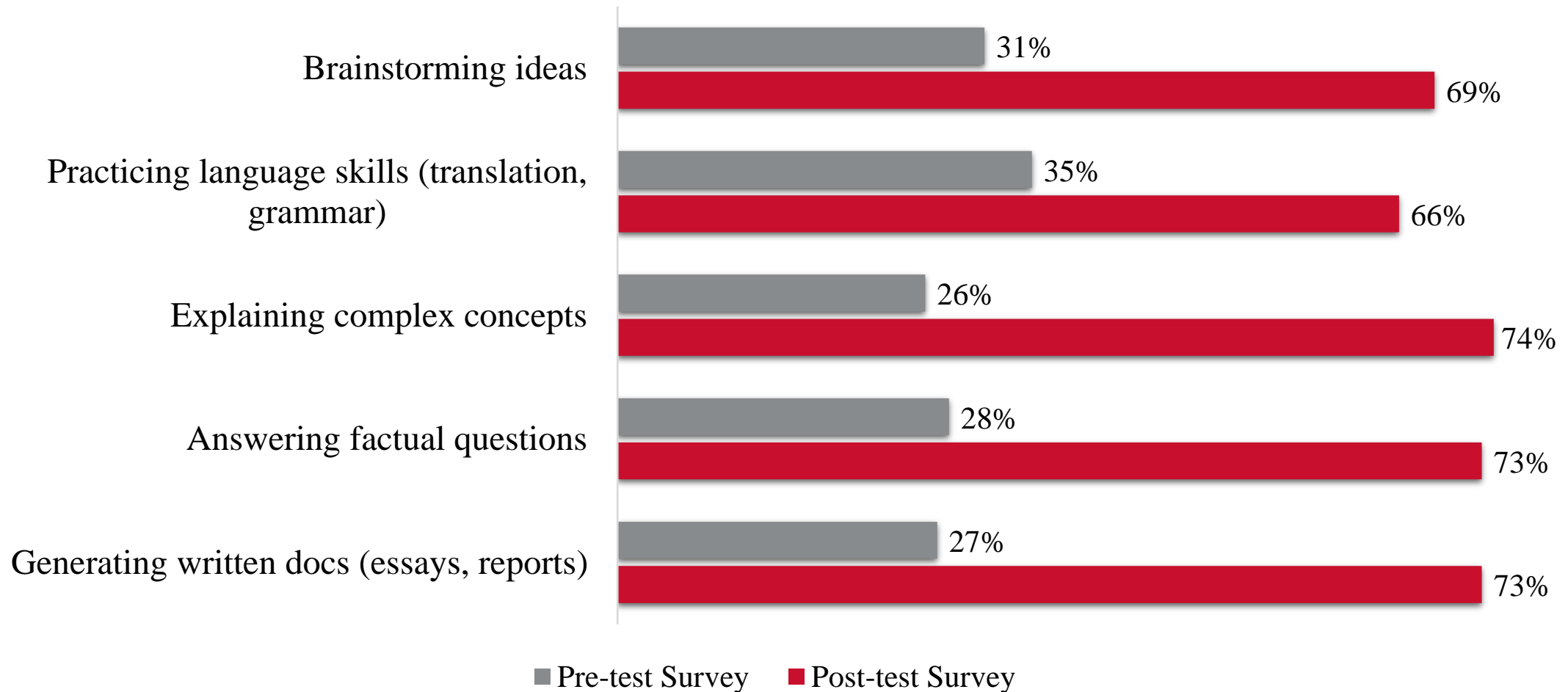
Q23-What do you think are the potential risks or challenges of AI technology? (Select all that apply.)



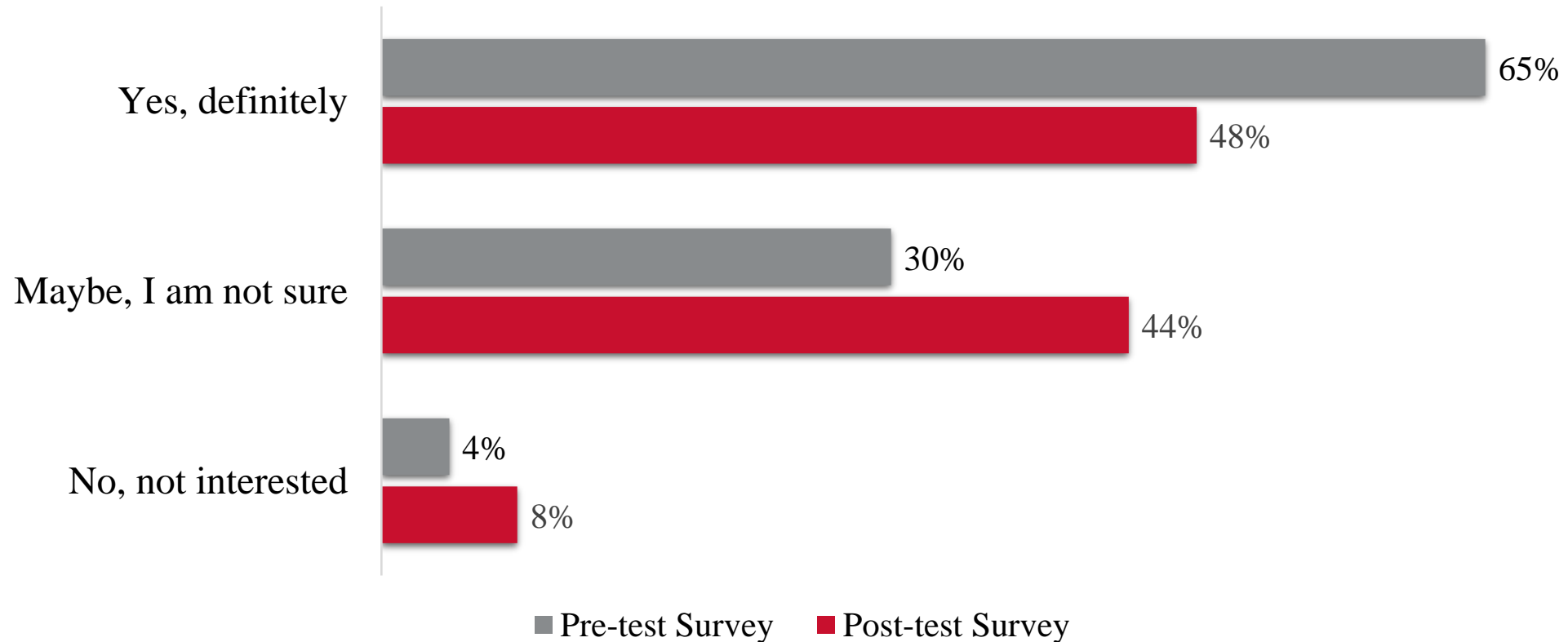
Q25-Have you ever used ChatGPT or any other AI-based chatbot for educational purposes? (Pre only)



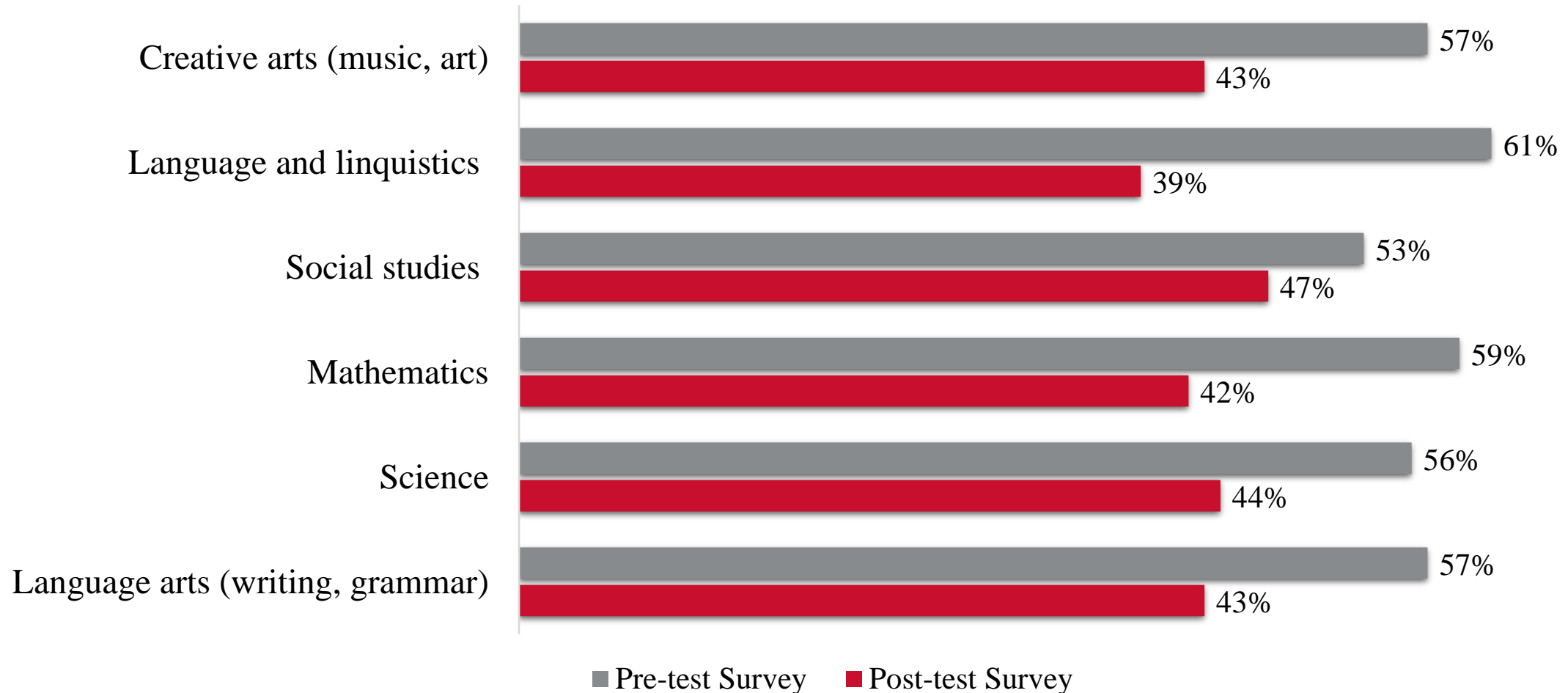
Q27-What specific educational tasks or activities did you use ChatGPT for? (Select all that apply)



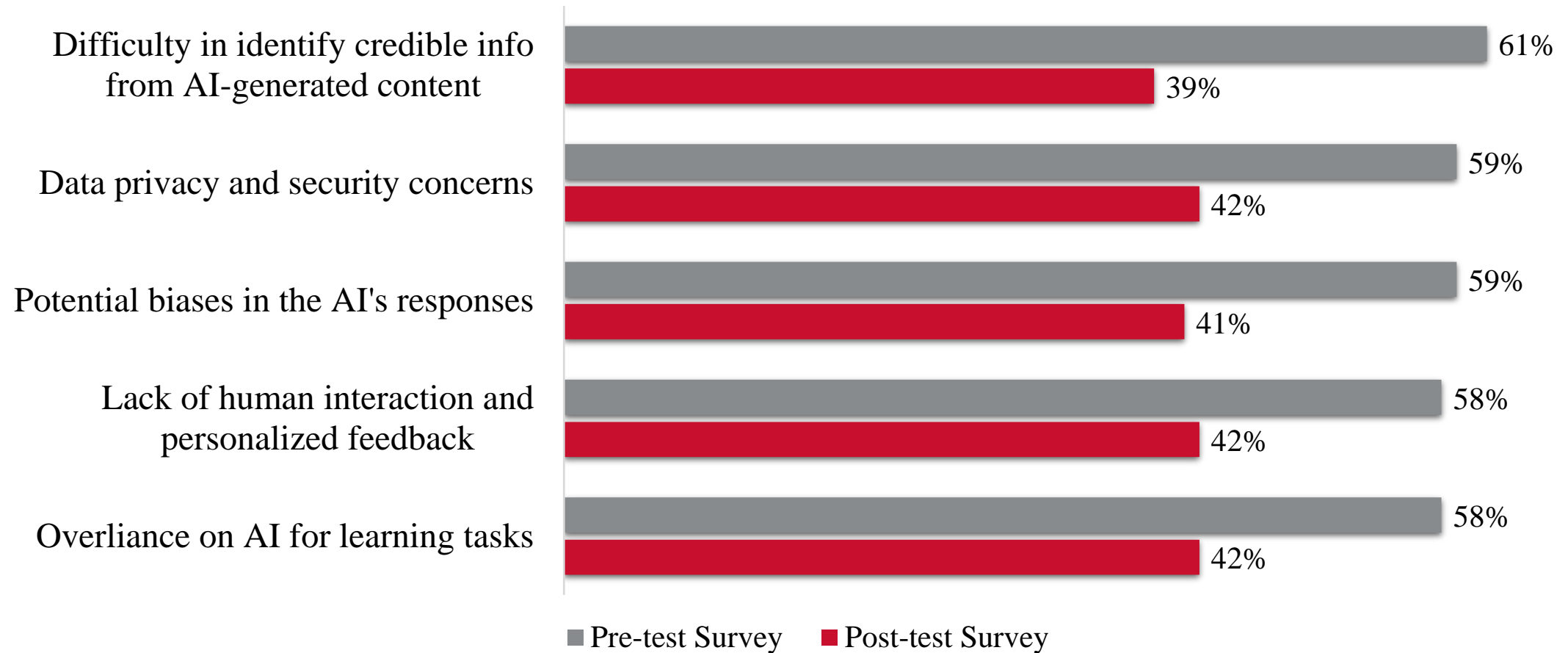
Q32-Being interested in learning more about AI technology and applications



Q36-In which subjects or areas of education do you think ChatGPT is most effective and beneficial (Select all that apply.)?



Q37-What concerns or challenges do you have about using ChatGPT in education (Check all that apply)?



Jae's Class (Group Assignment #1 – 16 Groups)

Rubric Description (Critique of ChatGPT generated theory on a 5-point scale)	Average
1. Theoretical assumptions are presented.	4.77
2. Information about theorists is provided.	4.46
3. Two or more major theoretical claims are given.	4.54
4. Application or practice implications are clear.	3.69
5. Citations in text and references are consistent with APA 7 th style.	4.31
6. Points or contents are clear.	4.85
7. Points or contents are easy to follow (from introduction to body to conclusion)	4.15
8. Examples are relatable.	3.85
9. I know what the theory is about now.	4.46
10. How will your group grade the theory description offered by ChatGPT as a whole.	85.77/100 (B+)

COMM 3353 Class - Reflection Paper #1 (Fall 2023)

Knowledge Level	N
New to ChatGPT	31
Little Experiences	7
Some Experience	3
Some Knowledge	2
Relatively Well-Versed in Abilities	1
Previously Somewhat Familiar	1

Sentiments	%
Positive and enjoying	71%
Mixed and neutral	18%
Negative	10%

Categories	Key Points
Learning Assistance	- ChatGPT aids learning by simplifying complex concepts, providing guidance, summarizing information, and assisting with research.
Practical Uses	- It is practical for tasks like coding help, writing feedback, document formatting, and language learning.
Critical Thinking	- ChatGPT stimulates critical thinking by offering diverse perspectives and explanations of complex topics.
AI in Education	- Its role in education is evolving and effectiveness depends on how it's used.
Integrity and Misuse	- Concerns about potential misuse for cheating and the need to ensure academic integrity.
Inclusivity and Access	- Accessibility features make educational content more inclusive, benefiting diverse students.
Tailored Learning	- ChatGPT tailors learning with personalized study guides, quizzes, and simulations.
Potential for Abuse	- Addressing misuse to ensure it supplements learning rather than supports cheating.

Questions and (probably Great) Answers



Concluding Remarks?

Grant – Exciting, Grateful for Support

Focuses

Current Progress – Slow, but moving

Future Aspiration – ChatGPT as an Imperative; a
beneficial leverage?

Thankful for joining this conversation