



In ChatGPT Students Trust? A Single-Institution Exploratory Questionnaire-based Study of Medical Students' Utilization of ChatGPT

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BACKGROUND

- Artificial Intelligence (AI) is increasingly pervasive in various sectors, notably in medical education, where it may revolutionize traditional learning paradigms.
- As AI tools like ChatGPT are utilized for academic tasks, understanding their effectiveness and the students' perception becomes essential.
- While AI's potential to personalize learning and enhance comprehension is acknowledged, the degree to which medical learners understand the algorithm, its capabilities and pitfalls remains unexplored.
- This study aims to bridge this knowledge gap by examining medical students' utilization and perceptions of AI tools, specifically ChatGPT, within their learning processes. By focusing on AI's role in medical education, we seek to identify both the benefits and challenges posed by AI integration, thus informing future educational strategies and technologies.
- This project aims to assess the extent of ChatGPT's use by medical students, evaluate its impact on their learning experience, and understand students' perceptions and confidence in using AI tools in medical education.



METHODS & RESULTS

- Methods:** This prospective, cross-sectional survey was conducted at Hackensack Meridian School of Medicine. Participants included medical students from the 2020 to 2023 cohorts, utilizing a structured questionnaire to collect data on frequency of use, purposes for using ChatGPT, and perceptions regarding its efficacy and reliability. The survey integrated both quantitative and qualitative measures, with responses collected via Google Forms. Data analysis involved descriptive and inferential statistics, using tools like SPSS and Python to identify significant correlations and trends.
- Key findings:**
 - Usage Frequency: The majority reported using ChatGPT 'Rarely/Never' (33 respondents), indicating varied engagement levels.
 - Confidence vs. Practice: Despite high confidence in identifying errors in AI responses (27.2% felt confident), actual cross-checking practices were infrequent, with 27.1% rating their cross-checking frequency at 2 out of 5.
 - Perceptions of AI: 68.4% of students recognized AI tools like ChatGPT as enhancing their learning experience, although concerns about error detection and verification were notable.
 - Primary Uses: ChatGPT was mostly used for writing assistance (35%), explaining class material (34%), and acquiring general medical knowledge (33%).
 - Ethical Usage: 22.6% of students view employing ChatGPT for curriculum assignments as cheating, in contrast to 8.6% who consider using it for practice questions as cheating.
 - Demographic Influences: No significant differences were found in AI usage based on demographic factors such as age or gender.

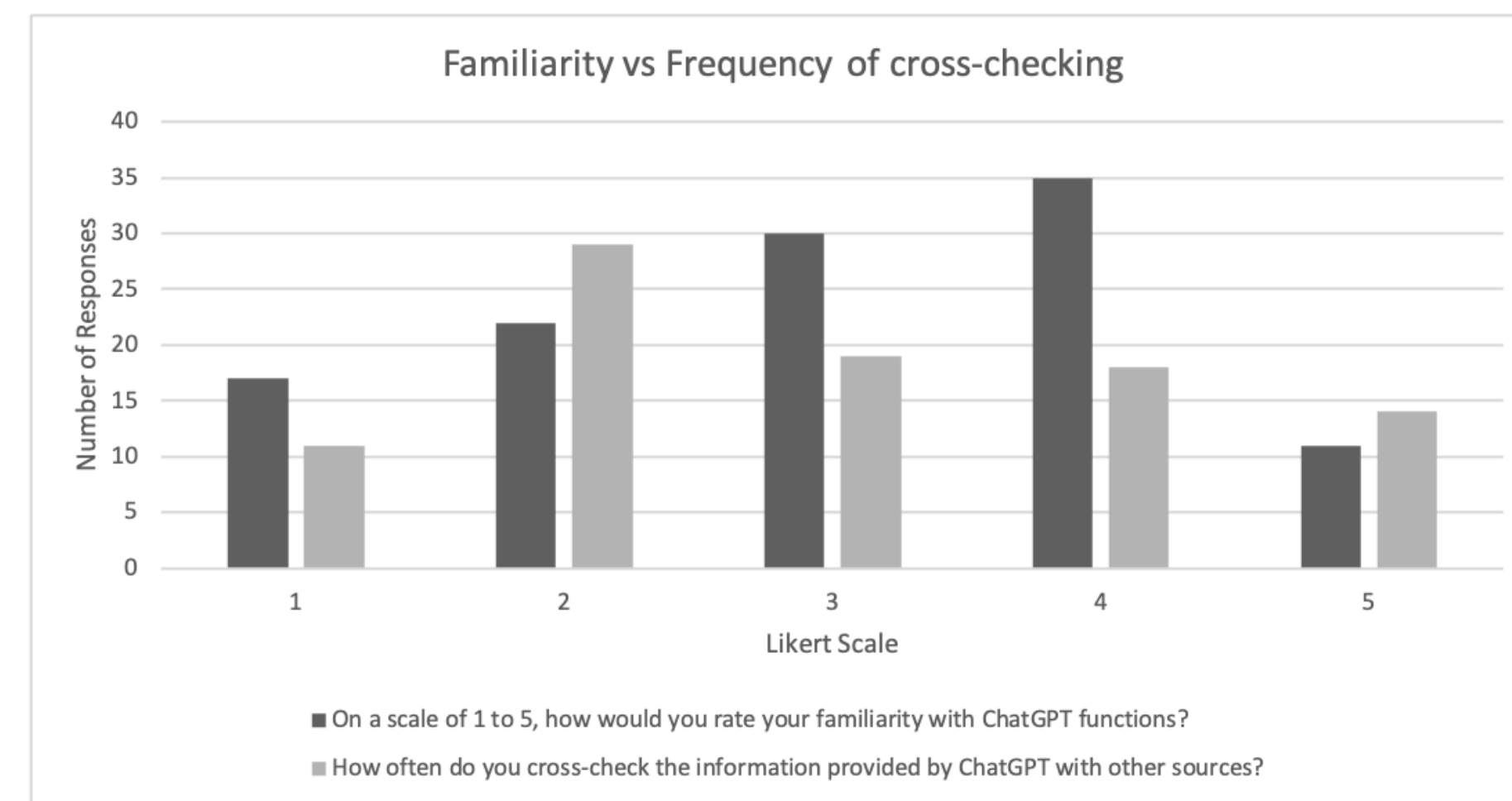


Fig 4.2 Familiarity of ChatGPT by frequency of cross-checking

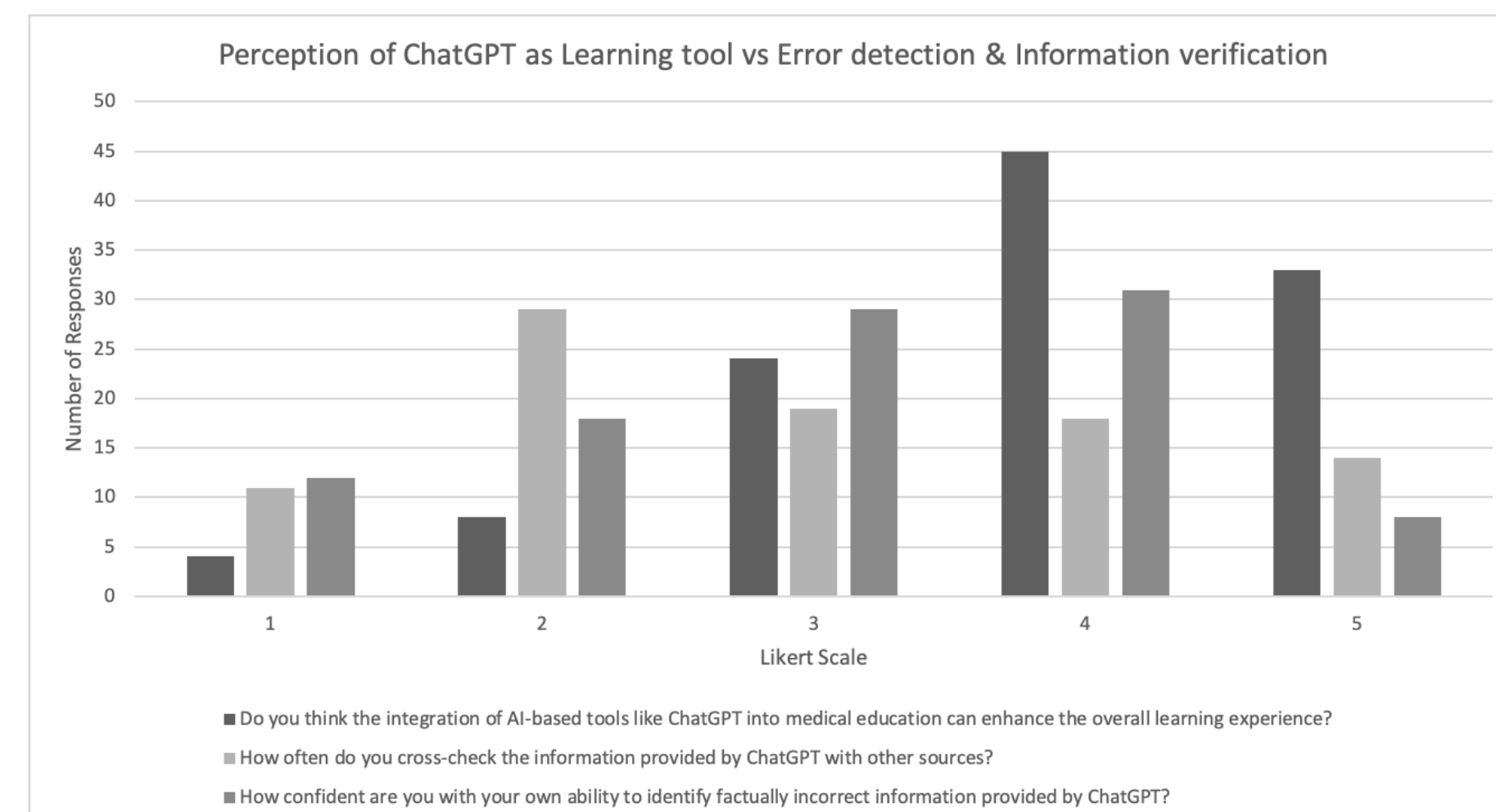


Fig 6 Perception of ChatGPT as a learning tool by error detection and information verification

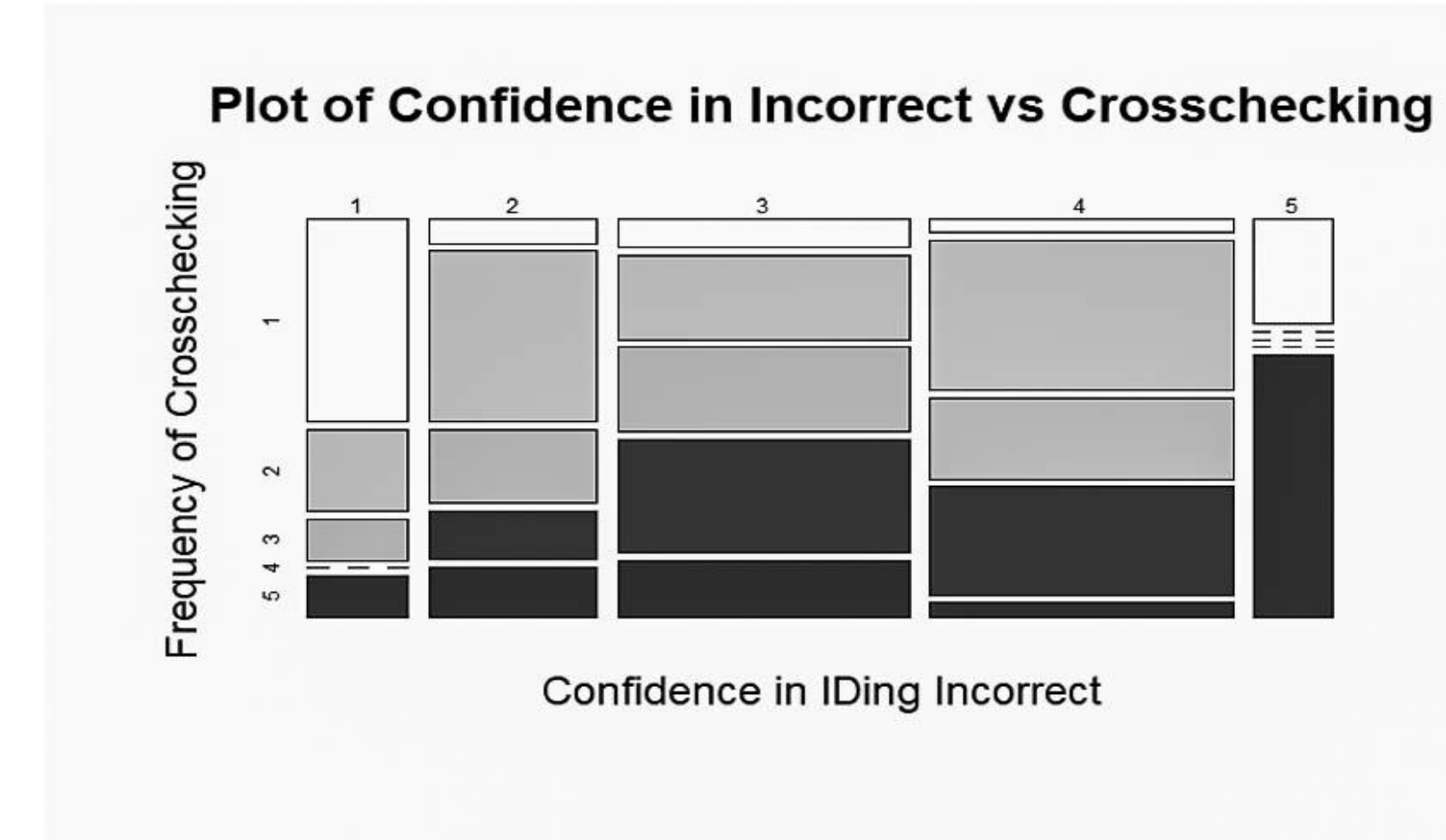


Fig 5 Confidence in identifying incorrect ChatGPT information by frequency of cross checking

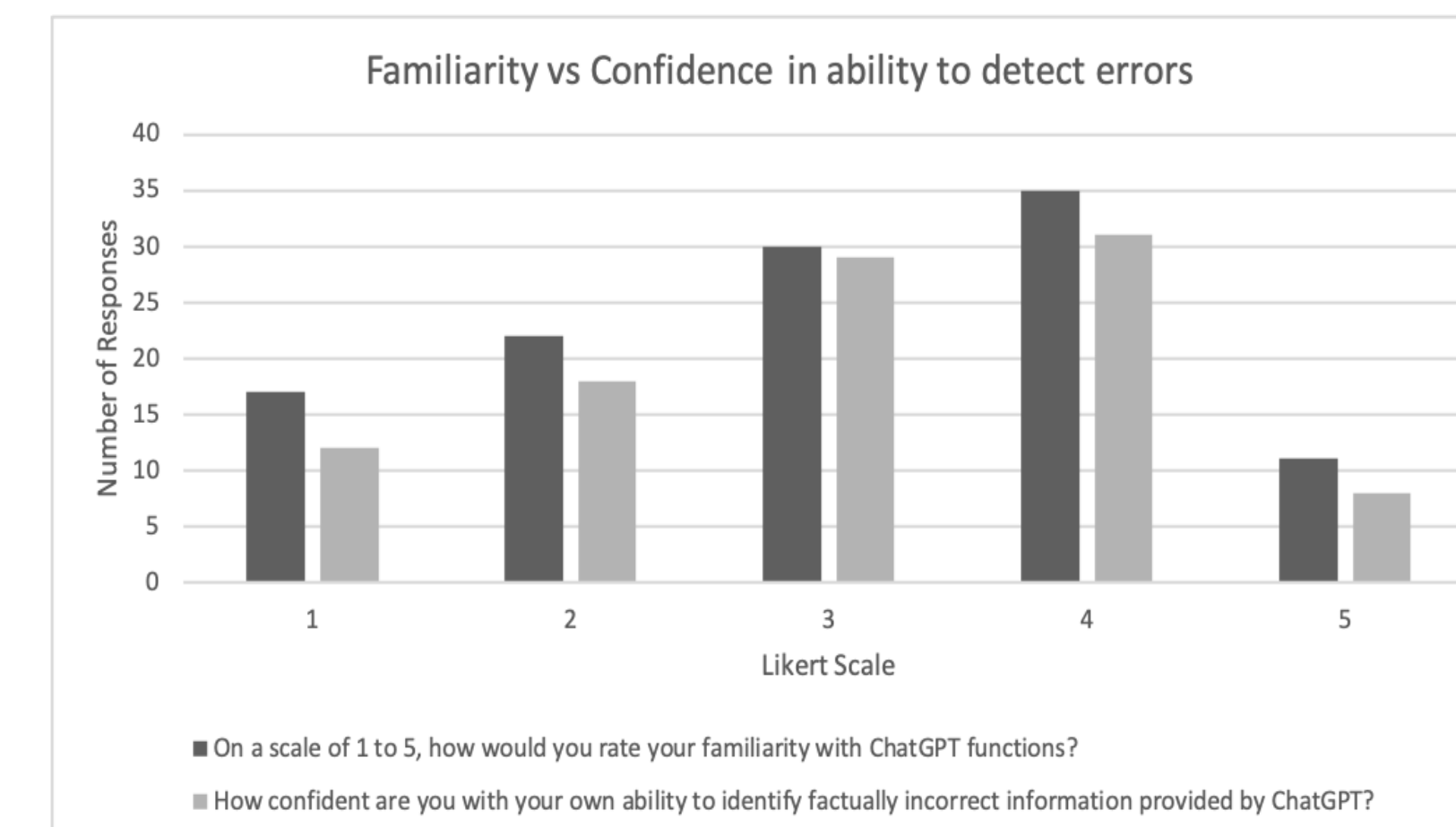


Fig 4.1 Familiarity of ChatGPT by confidence in ability to identify errors

DISCUSSION & CONCLUSION

- Personalized learning experience remains one of ChatGPT's biggest assets
- ChatGPT is particularly utilized in the framing and cognitive integration phases of learning.
- Usage in reinforcement and application phases can be further developed
- Enhanced accuracy and nuanced clinical reasoning optimizes usage
- Newer iterations of ChatGPT (GPT4) have marked improvements in accuracy and multimodal capabilities performing significantly better on United States Medical Licensing Examinations (USMLEs).
- Step 1,2,3; GPT-4 88%, 86% and 90% respectively vs GPT-3.5 75.0%, 61.5%, and 68.8% respectively
- However, GPT-4 is available via subscription, likely contributing to disparities in medical education based on SES status
- Unclear expectations, boundaries and limits surrounding AI usage in Med-Ed
- Need for integrated guidelines, understanding of learning model data and limitations, best-practice policies and discussion of ethics into curriculum

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