Student Perceptions of Generative Artificial Intelligence in Didactic Patient Presentations

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Introduction

- Effective communication is essential for quality care within the pharmacy field.[1] This skill is endorsed by the Accrediting Counsel of Pharmacy Education which indicates student pharmacists must achieve the ability to provide patient care in cooperation with an interprofessional team.[2]
- Simulated activities, including patient presentations are often utilized within didactic curriculum to promote development of communication skills.[1,3,4]
- Currently within our curriculum, oral, recorded, patient presentations are incorporated in the second (P2) and third (P3) years. However, students often struggle with presentation formatting.
- Artificial intelligence (AI) and natural language processing technologies have started to revolutionize the field of healthcare and are readily accessible to students.
- ChatGPT (GPT 3.5) is an example of AI which has demonstrated ability in providing personalized learning, assisting with evidence-based decision making, academic writing, and increasing efficiency within medical education.[5-9]
- Pertinent limitations of ChatGPT (GPT 3.5) include knowledge being confined to information prior to 2021, and a lack of human-like understanding that may lead to disregard of prompt context or inclusion of irrelevant text and ideas.[6,8]
- Incorporating ChatGPT (GPT 3.5) into patient presentations has the potential to provide an effective platform for pharmacy students to improve their patient presentation skills, while affording the opportunity to continue developing critical thinking skills.
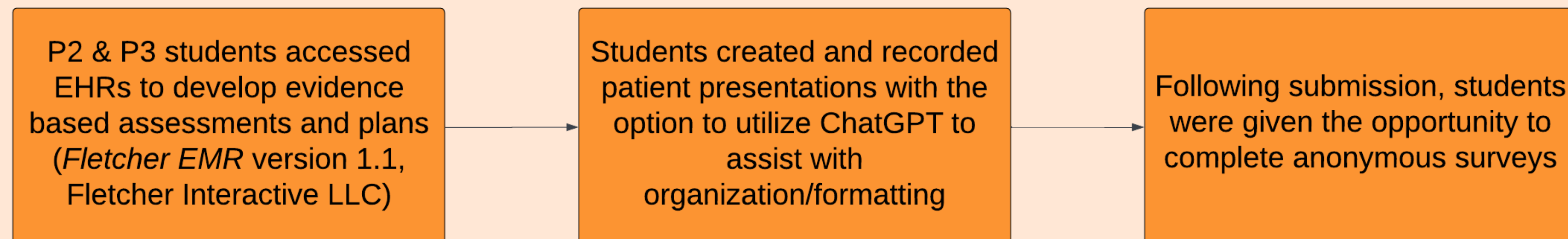
Purpose

Currently there is limited research on integrating ChatGPT into didactic pharmacy curriculum. The purpose of this project was to evaluate the impact of utilizing ChatGPT to assist in the creation of patient presentations on student perceptions, confidence, and time spent completing the presentation. This project also aimed to determine how students felt about incorporating ChatGPT within pharmacy curriculum.

Objectives

Primary
- To compare P2 vs. P3 student perceptions of creating patient presentations with ChatGPT

Secondary
- To compare student reported time in formatting and creating patient presentations without and with ChatGPT
- To describe trends in student perceptions of effectiveness, time spent, and organization of patient presentations without and with ChatGPT
- To describe trends in student perceptions of confidence when creating patient presentations with ChatGPT

Methods

P2 & P3 students accessed EHRs to develop evidence based assessments and plans (*Fletcher EMR* version 1.1, Fletcher Interactive LLC) → Students created and recorded patient presentations with the option to utilize ChatGPT to assist with organization/formatting → Following submission, students were given the opportunity to complete anonymous surveys

- The primary endpoint was analyzed utilizing Wilcoxon rank sum, endpoints related to time were analyzed using Student t-test, and other secondary endpoints were analyzed using descriptive statistics
- All analyses were performed using JMP17-PRO (SAS, Cary, NC)

Disclosures

The authors of this poster have nothing to disclose concerning possible financial or personal relationships with commercial entities that may affect this presentation.

Results

Included Students	n (%)
P2 Post Surveys Completed or Partially Completed (N=66)	51 (77.2%)
P3 Post Surveys Completed or Partially Completed (N=67)	48 (71.6%)

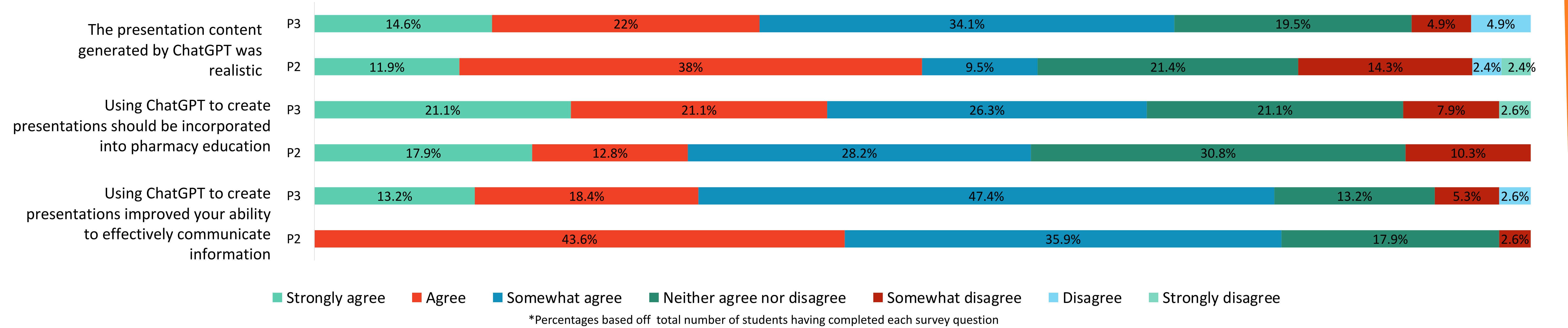### Prior Experience Using ChatGPT

- P2, prior experience: 35.5%
- P2, no experience: 64.7%
- P3, prior experience: 83.3%
- P3, no experience: 16.7%
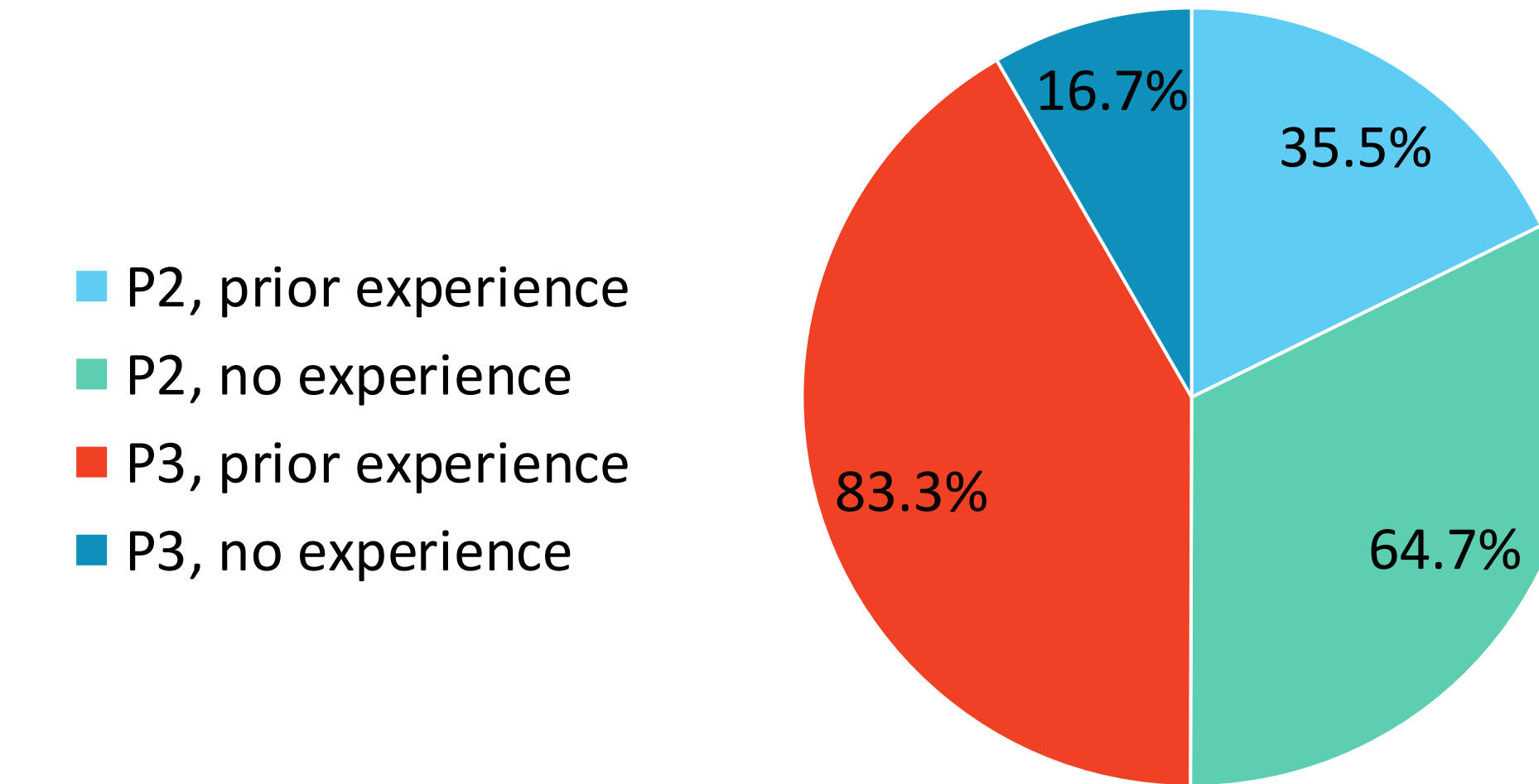
Project Time Spent	P2	P3	95% CI	p-value
Minutes spent organizing and formatting presentation – (mean ± std dev.)	141.6 ± 15.5	98.1 ± 13.4	-2.7 to -84.2	**0.0369**
Minutes spent creating presentation overall? – (mean ± std dev.)	264.4 ± 23.4	195.4 ± 20.2	-7.6 to -130.5	**0.0281**

Project Perceptions P2 vs. P3	P2 - Median (IQR)	P3 – Median (IQR)	P-value
Familiarity/Comfort with ChatGPT			
How familiar were you with ChatGPT prior to this assignment?	3 (2-3) familiar	2 (2-3) very familiar	**0.0045**
How comfortable were you using ChatGPT to create patient presentations?	3 (2-5) slightly comfortable	3 (2-4) slightly comfortable	0.892
Effectiveness & Communication			
Compared to creating traditional patient presentations, how much time did using ChatGPT save you in preparing for patient presentations overall?	3 (2-4) saved slightly more time	3 (2-4) saved slightly more time	0.2677
How effective do you feel your patient presentation was at communicating pertinent and appropriate information?	2 (1.75-3) effective	2 (2-2) effective	0.8078
Using ChatGPT to create patient presentations improved your ability to effectively communicate information	2.5 (2-4) agree	3 (2-4) somewhat agree	0.8849
Using ChatGPT improved your ability to organize and structure patient information	3 (2-4) slightly improved	3 (2-4) slightly improved	0.3709
Confidence			
How confident are you in your ability to succinctly present an assessment and plan?	2 (2-3) mostly confident	2 (2-2) mostly confident	**0.0106**
How confident are you in your ability to use the skills you learned from using ChatGPT to create patient presentations in real-life interactions?	2 (2-4) mostly confident	2 (2-3.75) mostly confident	0.5616

Overall Perceptions

The presentation content generated by ChatGPT was realistic
- P3: 14.6% | 22% | 34.1% | 19.5% | 4.9% | 4.9%
- P2: 11.9% | 38% | 9.5% | 21.4% | 14.3% | 2.4% | 2.4%

Using ChatGPT to create presentations should be incorporated into pharmacy education
- P3: 21.1% | 21.1% | 26.3% | 21.1% | 7.9% | 2.6%
- P2: 17.9% | 12.8% | 28.2% | 30.8% | 10.3%

Using ChatGPT to create presentations improved your ability to effectively communicate information
- P3: 13.2% | 18.4% | 47.4% | 13.2% | 5.3% | 2.6%
- P2: 43.6% | 35.9% | 17.9% | 2.6%

Legend: ■ Strongly agree ■ Agree ■ Somewhat agree ■ Neither agree nor disagree ■ Somewhat disagree ■ Disagree ■ Strongly disagree

*Percentages based off total number of students having completed each survey question

Discussion

- Despite significant differences in prior experience, no significant difference was present in overall perceptions. Minimal differences were found between year group perceptions of effectiveness, communication, and confidence when using ChatGPT in patient presentations.
- The majority of students expressed some level of agreement that content created with ChatGPT was realistic, communication ability was improved, and ChatGPT should be incorporated into pharmacy education.
- P2 students spent significantly longer creating their presentations compared to P3 students. However, both groups felt the use of ChatGPT saved time. The difference in time may be explained by experience level creating presentations or assignment value, as the patient presentations were scored differently across courses.
- Given confines on access to information beyond 2021, using ChatGPT to assist in presentation development still enabled students to develop critical thinking skills and streamlined patient presentation organization, a skill many students struggle to develop until their advanced pharmacy practice experiences.
- Limitations
  - Survey bias
  - Partial and completed surveys included in results
  - Students were not required to utilize ChatGPT

Conclusion

Overall, students found the use of ChatGPT beneficial when creating patient presentations with respect to improving effective communication, presentation organization, and time spent. The majority also agreed ChatGPT should be incorporated into pharmacy education.

References

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