

Enhancing Retention and Academic Resilience in First-Year Doctor of Pharmacy Students Using Cognitive Congruence

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Disclosures: The authors of this presentation are all members of the Rho Chi Honor Society, for which Dr. Phillips is the National Historian.

BACKGROUND

Once qualified, motivated students are accepted into a Doctor of Pharmacy (PharmD) program, the focus turns to retention of these individuals who are balancing a challenging curriculum, co-curriculum, and everyday life needs and challenges. Retention of students must include a multi-faceted approach of both academic and social aspects. Relevant literature documents successful approaches may include utilization of social and cognitive congruence to close the existing gap between faculty who teach subject matter and students who learn through a variety of mechanisms.¹

The University of South Carolina (USC) College of Pharmacy (COP) utilizes a variety of approaches with first-year students (P1s) to establish a sense of belonging and expectations of PharmD students. Previous pre-matriculation efforts of virtual small group sessions familiarized incoming P1s with new colleagues and acknowledged student-identified professional school apprehensions. Academic confidence and social and cognitive congruence are instilled through various active learning sessions and interaction with faculty and current PharmD students, such as tutoring services introduction, study tips and skills, receipt of a second-year mentor, small group P1 sessions focusing on professional development, use of teaching assistants, and personalized mid-term alert academic meetings.² The USC COP developed a preventative process that utilizes high-performing upperclassmen who serve as near-peer tutors to help close the gap between faculty academic expectations and lacking student confidence levels in a professional level curriculum.³

OBJECTIVES

To bridge the social and cognitive gap between faculty and first-year Doctor of Pharmacy students through creation of a student-led program focused on academic tutoring and continuously available course-specific resources.

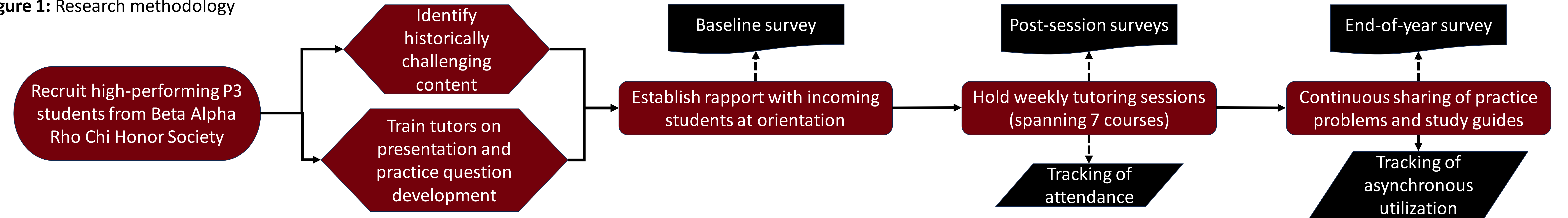
RESULTS

	2019 n=110	2020 n=115	2021 n=109	2022 n=97
Age, mean (range)	20.4 (18–31)	19.7 (18–36)	19.6 (18–27)	19.8 (18–32)
Highest level of education completed				
No degree (%)	87 (79%)	104 (90%)	98 (90%)	86 (89%)
Associate's degree (%)	1 (1%)	1 (1%)	0 (0%)	0 (0%)
Bachelor's degree (%)	22 (20%)	9 (8%)	11 (10%)	10 (10%)
Master's degree (%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)
Professional degree (%)	0 (0%)	1 (1%)	0 (0%)	0 (0%)

	2019–2020	2020–2021	2021–2022	2022–2023
Pathophysiology & Pharmacology I	99.09%	96.55%	96.43%	95.92%
Biochemistry	97.30%	92.24%	87.72%	91.18%
Medicinal Chemistry I	100%	97.39%	93.64%	96.04%

METHODS

Figure 1: Research methodology



RESULTS

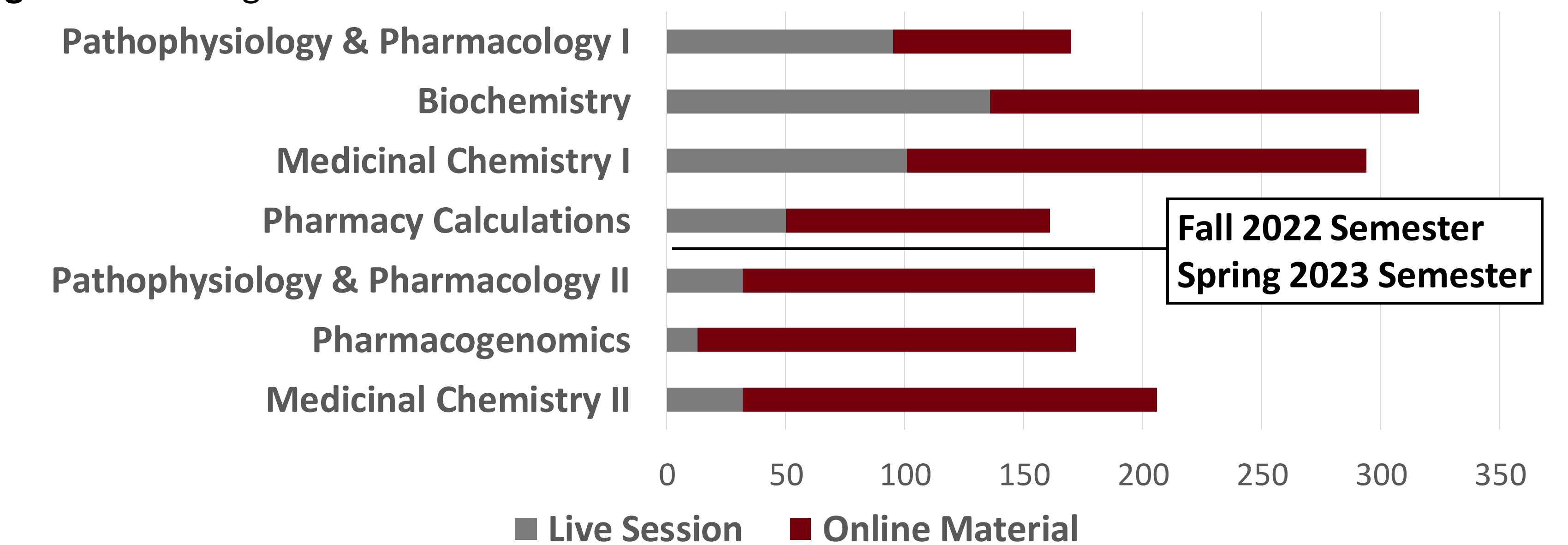
Figure 2: Select P1 feedback from post-tutoring session surveys

"Continue to change the delivery modes you use because it really helps looking at different types of material in different ways." (Medicinal Chemistry I)

"[The] Session was super helpful and tutors summarized the material really well and made it easy to follow through. I really liked doing TopHat questions after every few slides; it helped reinforce the material." (Pathophysiology & Pharmacology I)

"Very helpful... this session consolidated the information." (Pathophysiology & Pharmacology I)

Figure 3: Tutoring session attendance and utilization of online material



	Neutral	Agree	Strongly Agree
Pathophysiology & Pharmacology I			
Q#1	2 (6%)	3 (9%)	28 (85%)
Q#2	0 (0%)	8 (24%)	25 (76%)
Q#3	1 (3%)	5 (15%)	27 (82%)
Biochemistry			
Q#1	1 (1%)	23 (29%)	54 (69%)
Q#2	4 (5%)	8 (10%)	66 (85%)
Q#3	7 (9%)	24 (31%)	47 (60%)
Medicinal Chemistry I			
Q#1	0 (0%)	4 (13%)	26 (87%)
Q#2	1 (3%)	1 (3%)	28 (93%)
Q#3	1 (3%)	3 (10%)	26 (87%)

¹Q#1: The tutors explained the concepts in a clear and easy to understand fashion.
Q#2: The tutors encouraged questions and participation.
Q#3: The tutoring session increased my overall understanding of the course material.

CONCLUSIONS

- A comprehensive strategy for aligning the academic and cognitive gap in first year pharmacy students includes near-peer tutoring for challenging pharmacy courses.
- Attendance data conveys that students shift toward asynchronous options for supplemental learning as the academic year progresses.
- Attendees' positive evaluation of tutoring sessions demonstrates congruence between content and understanding.
- As evidenced by P1 feedback, near-peer tutoring is well received and beneficial.
- Influences of changing demographics and COVID-19 contribute to fluctuating retention and pass rates.
- Continued assessment of tutoring session attendance, P1 student feedback, and retention metrics will determine necessary alterations in active learning strategies and materials for supplemental learning.

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