

BACKGROUND

- Performance-Based Assessments (PBAs) showcase student achievement of learning by performing specified tasks that simulate what is done professionally.
- Studies have been conducted focusing on student performance related to skills assessment and have found positive correlations between self-confidence after the assessment.
- Recent changes to the SIUE School of Pharmacy curriculum, has moved PBAs to be performed during the first three years of didactic coursework.

OBJECTIVES

- To gauge the confidence levels of first-year student pharmacists before and after select skill examinations, in order to improve outcomes for later students, in addition to impacting patient care.

METHODS

Study Design:

- Prospective, cross-sectional, survey review of first-year student pharmacists.

Survey:

- 16-question survey containing questions from past survey-based literature.
- Survey assessed participants' demographic data and confidence before and after a given PBA to be later used for future curriculum adjustments.
- Individual student confidence scores before and after PBA (4-point Likert Scale with Strongly Agree = 4, Agree = 3, Disagree = 2, and Strongly Disagree = 1).
- Calculated mean confidence scores for each PBA.

Dummy Coded (0/1/2/3/4):

- Whether the student had current pharmacy job (Yes/No)
- Demographic Data (Community, Hospital, Ambulatory Care, Research, Other)
- Duration of Pharmacy Experience (< 3 months, 3-6 months, 6-12 months, > 1 year)

Study Population:

- Students from the SIUE School of Pharmacy Class of 2024, enrolled in Pharmacy Skills Laboratory I and II courses during Fall 2020 and Spring 2021.

METHODS

Statistical Analysis:

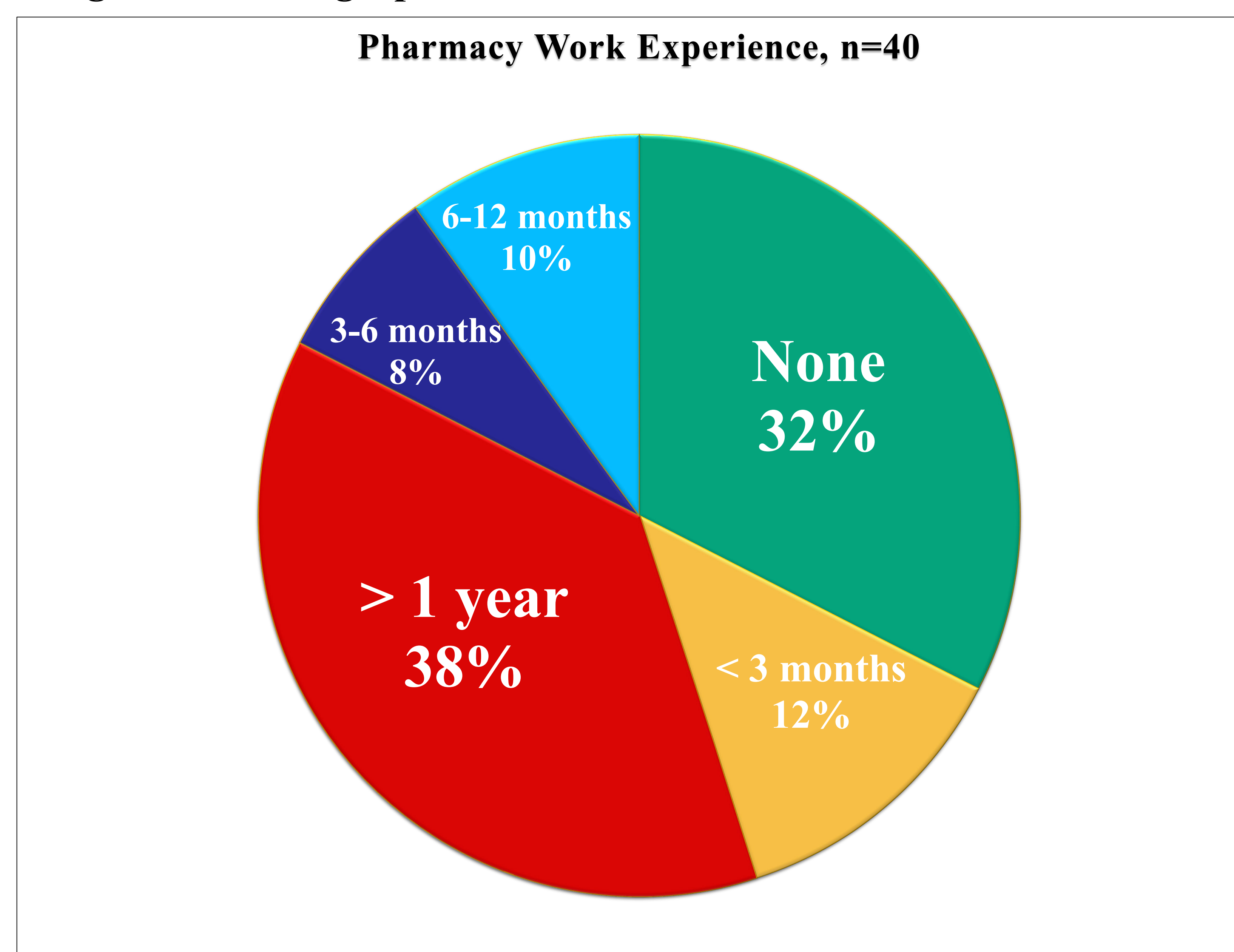
- Descriptive statistics used in this study include means, percentages, and standard deviations.
- Paired student t-tests were used to analyze pre- and post-survey confidence scores for each item for students that successfully completed both surveys. Findings were regarded as statistically significant if $p < 0.05$.

RESULTS

Table 1. Demographics, n = 40

Demographic Topic	Standard Deviation
Working in a Pharmacy, n (%)	
Yes	27 (67.5%)
No	13 (32.5%)
Pharmacy Experience Setting, n (%)	
None	13 (32.5%)
Community	23 (57.5%)
Hospital	4 (10%)

Figure 1: Demographics



RESULTS

Table 2: Student Pharmacists' Confidence Scores Before and After Completing Fall 2020 PBAs (n = 40)

Question	Pre-Survey Mean (SD)	Post-Survey Mean (SD)	P-value
1) Perform necessary calculations to determine the amount of drug needed for an IV solution	2.98 (0.6597)	3.43 (0.5943)	$p=0.0003$
2) Identify an error in the sterile compounding process.	2.85 (0.7355)	3.73 (0.4522)	$p < 0.0001$
3) Correctly prepare a sterile IV solution with no errors.	2.58 (0.8130)	3.75 (0.4385)	$p < 0.0001$
4) Use a systematic approach to identify errors when verifying a prescription.	2.50 (0.7161)	3.63 (0.4903)	$p < 0.0001$
5) Use a systematic approach to identify medication-related problems when performing a drug utilization review (DUR)	2.00 (0.6405)	3.55 (0.5524)	$p < 0.0001$
6) Prioritize medication-related problems when performing a drug utilization review, if multiple issues exist	1.95 (0.6775)	3.4 (0.6325)	$p < 0.0001$
7) Appropriately transcribe a voicemail prescription by ensuring all legal requirements are followed.	2.40 (0.8412)	3.85 (0.3616)	$p < 0.0001$

LIMITATIONS

- Limitations included risk of bias due to administering survey after grades became available.
- Unable to account for incomplete/duplicate responses being due to technical error or survey fatigue.
- Multiple-choice questions over-simplified true feelings.
- Self-reported confidence is a subjective measure that does not directly correlate to knowledge or skill.

CONCLUSION

- Results indicate that the current SIUE Fall 2020 Pharmacy Skills Lab I course was successful in significantly increasing baseline confidence scores of first-year student pharmacists.
- The institution's recent curriculum shift promotes positive learning outcomes in student ability.
- Further studies are needed utilizing objective measures (e.g. GPA, assessment scores, etc.) to assess the true impact of the current curriculum on first-year student pharmacists.