

Influence of a Peer-Led Mock OSCE on Student Performance and Student and Peer Tutor Perceptions



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INTRODUCTION

- Objective structured clinical examinations (OSCE) are highly associated with student stress compared with other types of assessments.
- Peer-assisted learning programs (PAL) such as a mock OSCE (MOSCE) may:
 - Increase cognitive and psychomotor development^{1,4,5}
 - Improve confidence^{1,2,4,5}
 - Increase valued feedback^{2,4}
 - Increase OSCE scores^{3,5}
 - Promote mutual learning environments
- Few studies analyze impact of such programs including a mock OSCE in pharmacy education.

OBJECTIVE(S)

- To examine the impact of a novel peer-led MOSCE on student performance and peer grader and student perceptions

METHODS

Study Design

- Retrospective quantitative and qualitative cohort study conducted in Fall 2022 semester

Study Participants

- P1 students: enrolled in PHAR 7118 Physical Assessment Skills Lab course
 - Mock participants: P1 students that attended the mock OSCE
 - Non-participants: P1 students that did not attend the mock OSCE
- Peer tutors: P2-P4 students that acted as mock patients and graders during the mock OSCE

Mock OSCE Event

- MOSCE was conducted after the low stakes OSCE and prior to the high stakes OSCE.
- Peer tutors were provided rubrics for evaluation and conducted the mock OSCE similarly to the high stakes OSCE.
 - Evaluated on blood pressure (BP) and diabetic foot exam (DFE) techniques and communication/interview skills

Data Collection

- Voluntary, anonymous surveys through Qualtrics were administered pre- and post-MOSCE event to participants, after the MOSCE event to peer tutors, and after the low stakes/before the high stakes OSCE for non-participants. Surveys analyzed:
 - Baseline demographics
 - Preparedness/confidence scores (for P1 students)
 - Perceptions about the event
 - Reasons for not attending the MOSCE (for P1 non-participants)
- Low, mock, and high-stakes OSCE scores were collected.

Statistical Analysis

- Descriptive statistics and Chi square analysis for baseline demographics and perceptions
- Paired sample T-test for preparedness and confidence scores pre- and post-MOSCE
- Independent samples T-test for comparison of participants and non-participants scores

RESULTS

Table 1: Baseline Demographics of MOSCE Participants vs. Non-Participants. Of the 21 MOSCE participants, 17 (81%) responded to the pre- and post-surveys. Of the 53 non-MOSCE participants, 26 (49.1%) responded to the survey.

Table 1: Baseline Demographics of Mock OSCE Participants vs. Non-Participants				
		Mock Participants, n = 17	Non-Participants, n = 26	P-value
Mean Age		25.56	27.28	0.403
Gender	Male	3 (17.6%)	7 (26.9%)	0.35
	Female	14 (82.4%)	17 (65.4%)	
Race/Ethnicity	Gender-Fluid	0 (0%)	2 (7.7%)	0.022
	Caucasian Non-Hispanic	6 (35.3%)	3 (11.5%)	
	Hispanic/Latino	1 (5.9%)	6 (23.1%)	
	African American/Black	4 (23.5%)	0 (0%)	
	Asian	5 (29.4%)	12 (46.2%)	
	Multiple/Other	1 (5.9%)	3 (11.5%)	
Highest Degree Earned	Prefer not to answer	0 (0%)	2 (7.7%)	0.58
	High School	1 (5.9%)	4 (15.4%)	
	Undergraduate	13 (76.5%)	19 (73.1%)	
	Graduate	3 (17.6%)	3 (11.5%)	
Prior Clinical or Pharmacy Experience	Yes	15 (88.2%)	13 (50.0%)	0.01
	No	2 (11.8%)	13 (50.0%)	

Figure 1: Preparedness and Confidence Scores in Different OSCE Outcomes Before and After MOSCE in MOSCE Participants vs. Non-Participants.

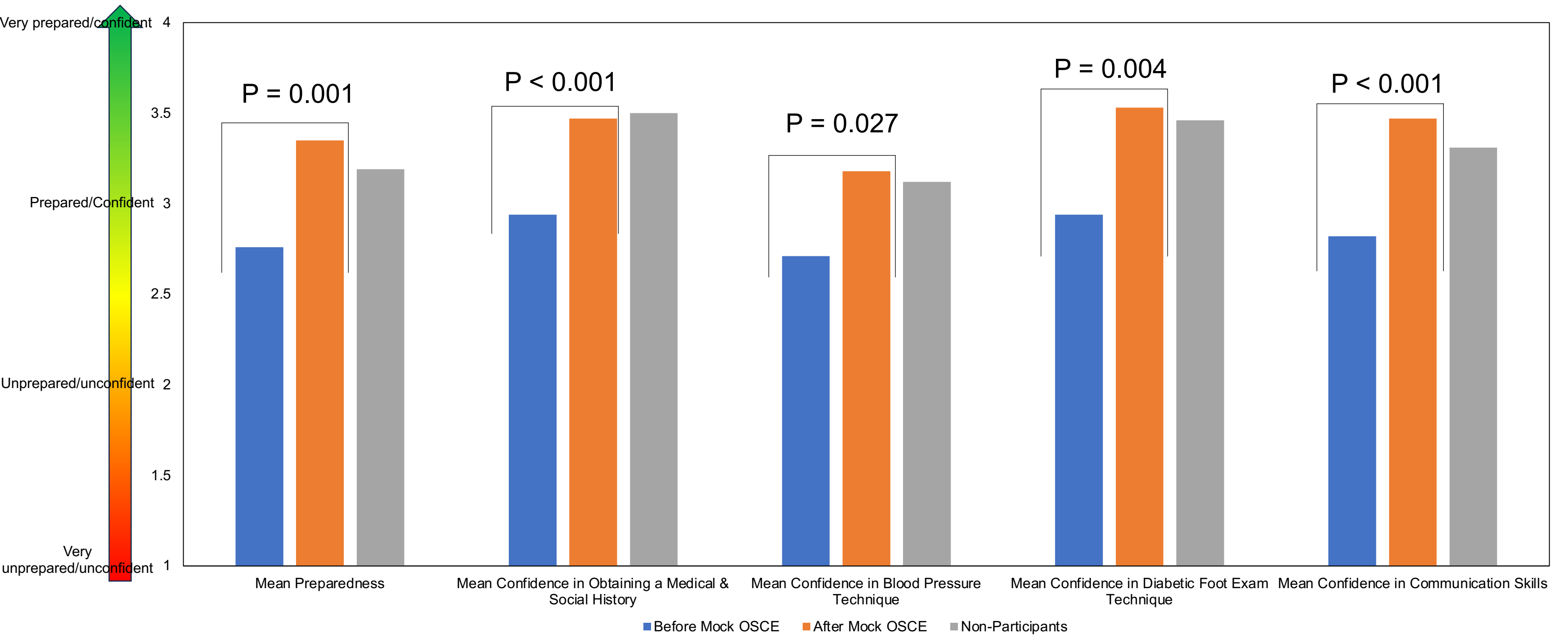
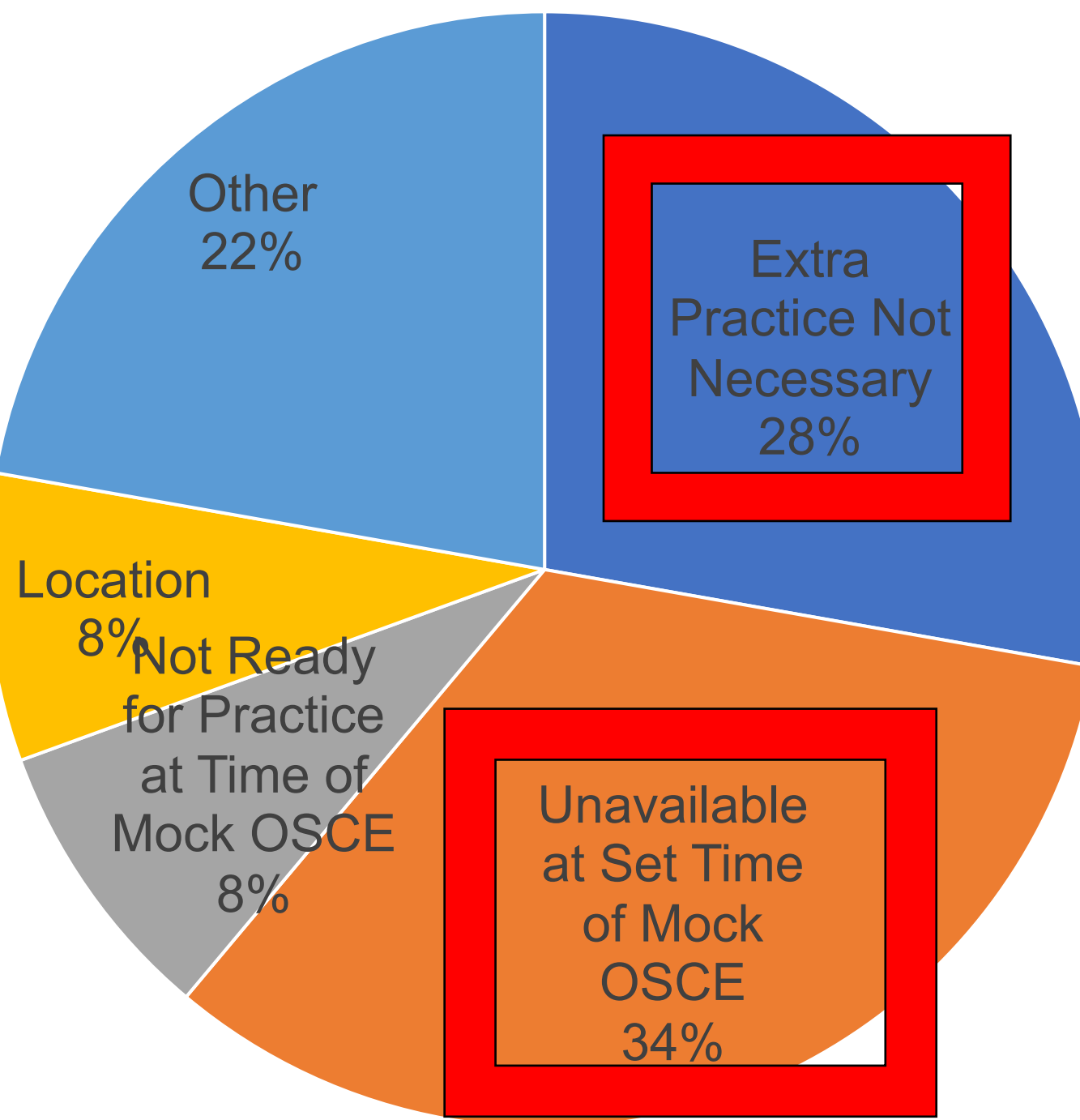


Figure 2: Cited Reasons for Non-Participation in MOSCE.



RESULTS (CTD.)

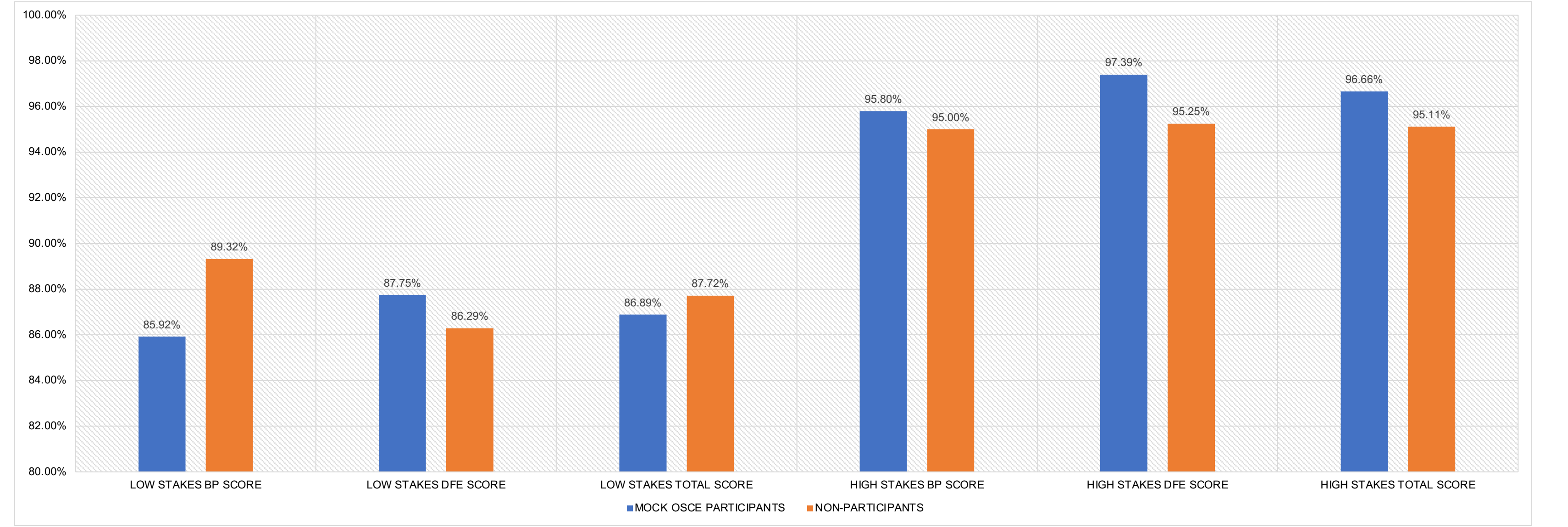


Figure 3: Low Stakes vs. High Stakes OSCE Scores in Participants vs. Non-Participants. Total and BP technique low-stakes OSCE scores were higher in non-participants, but MOSCE participants were found to have higher BP, DFE, and total high-stakes scores (P > 0.05).

Surprisingly, mock OSCE participants:

- Who had passed the low stakes OSCE had 3.6 times higher odds [OR 3.60, 95% CI (1.34-9.64)] of attending the mock OSCE than those who did not pass the low stakes OSCE
- Did not have a statistically significant lower high stakes OSCE failure rate

Table 2: Baseline Demographics and MOSCE Perceptions of Peer Graders, n = 8				
Average Age				23.71
Gender	Female			4 (50%)
	Male			4 (50%)
Race	Caucasian Non-Hispanic: White			2 (25%)
	Hispanic/Latino			1 (12.5%)
	African American/Black			3 (37.5%)
	Asian			2 (25%)
Pharmacy Year	P2			7 (87.5%)
	P3			1 (12.5%)
MOSCE Perceptions (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree)	The mock OSCE was beneficial in helping me reaffirm my physical assessment skills			3.25
	The mock OSCE helped foster my appreciation for peer-led learning			3.25
	I appreciated giving feedback to other students			3.125
	The mock OSCE increased my confidence in patient care activities.			3.375
		I feel that the mock OSCE was mutually beneficial for students and tutors		3.25

Figure 4: Peer Tutors' Most-Liked Aspects of MOSCE.

CONCLUSIONS

- MOSCE participation was associated with an increase in preparedness and confidence in performing OSCE skills but was not associated with a lower failure rate on the high stakes OSCE or better OSCE performance.
- Most non-participants cited unavailability (34%) and extra practice not necessary (28%) as reasons for not participating in the MOSCE.
- Peer tutors agreed/strongly agreed that the MOSCE increased confidence in patient care activities and cited the mutual learning environment (75%) as the most-liked aspect.
- Future studies:
 - Analyze impact of MOSCE prior to low stakes on performance and confidence
 - Increase availability and accessibility of MOSCE sessions
 - Collect data from multiple cohorts

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