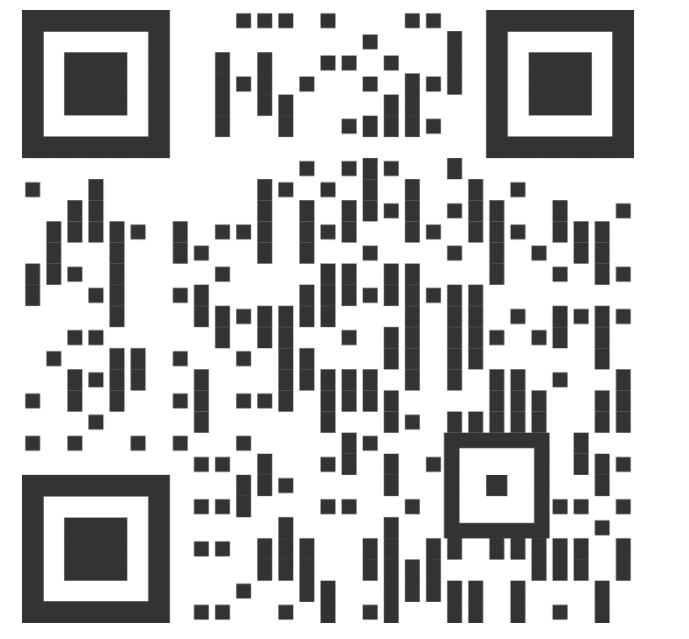


Comparison of Self, Peer, Near-Peer, and Faculty Assessment of a High-Stakes Patient Counseling Training Simulation

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Additional Questions?



Background

- ACPE Accreditation Standards require pharmacy schools to assess student achievement and readiness to provide direct patient care in a variety of settings¹
- Objective Structured Clinical Examinations (OSCEs) or Performance-Based Assessments (PBAs) are high-stakes assessments used to meet those standards, and accuracy in grading is essential to ensure students are practice-ready²
- Faculty workload equity is a critical factor in job satisfaction and retention, and a recent survey of pharmacy faculty members found that most respondents perceived their actual workload of teaching was more than assigned³
- The use of non-faculty members, such as near-peers (defined as a senior learner with at least 1 year difference in experience) and peers have been incorporated into many healthcare curricula to reduce workload burden⁴⁻⁷
- Peer teaching encourages self-reflection, a critical skill for all pharmacists⁸⁻⁹
- The high-stakes nature of a PBA can raise students' stress which has been shown to negatively impact their perceived performance¹⁰
- A near-peer assisted practice session prior to a final assessment has demonstrated improved student confidence and performance¹¹
- Using near-peer evaluators on a formative OSCE in medical education has been shown to provide high-quality feedback and reduce stress for students¹²
- The comparison of assessments from self, peer, near-peer, and faculty evaluators on a simulated PBA in a pharmacy skills laboratory has not been studied¹³

Objectives

Primary

Difference in mean score of self, peer, near-peer, and faculty Training PBA evaluations

Secondary

- Student-perceived accuracy of Training PBA evaluations
- Student-perceived usefulness of Training PBA feedback received

Methods

Educational Activity and Setting

- 2nd-year student pharmacists (N=138) in a pharmacy skills laboratory course at Purdue University College of Pharmacy participated in a simulated PBA or "Training PBA" which consisted of a patient counseling practice recorded via video which was held 3 weeks prior to the high-stakes PBA

Evaluation of Activity Performance

- Student performance of patient counseling was evaluated asynchronously by the student, a peer classmate, a near-peer (who was also the patient actor), and a faculty member using standardized analytical checklists (Figure 1)

Study Design

- Mixed methods, retrospective study
- A 46-item anonymous survey was distributed to students for quality improvement purposes and select responses were analyzed
- Data were analyzed using a repeated measures ANOVA and descriptive statistics in SAS version 9.4 (SAS Institute, Inc., Cary, NC, USA)
- Deemed IRB exempt by Purdue University IRB
- Inclusion Criteria:** 2nd-year student pharmacists enrolled in a pharmacy skills lab (PHRM 84000)
- Exclusion Criteria:** Missing or incomplete student evaluation from any evaluator

Primary Objective Results

Figure 1: Evaluator Definitions

Self

- 2nd-Year Student Pharmacist

Peer

- Randomly Assigned 2nd-Year Student Pharmacist's Classmate

Near-Peer

- Pharmacy Trainee With At Least 1 Year Greater In Experience (APPE Student, PhD Student, Resident, or Fellow)

Faculty

- Pharmacy Practice Faculty Member (Varying Ranks)

Table 1: Evaluation Scores (n=137*)

Evaluation	Mean ± SD	SE	Range
Self	36.04 ± 2.56	0.22	27.37 - 40
Peer	36.32 ± 3.16	0.27	20 - 40
Near-Peer	36.28 ± 3.23	0.28	26.25 - 40
Faculty	35.47 ± 3.13	0.27	24.24 - 40

*N=138 students completed the Training PBA; n=137 were included in analysis (n=1 missing self evaluation)

Table 2: Comparison of PBA Scores Among Evaluator Groups

Comparison	Difference (95% CI)	p-value
Faculty < Near-Peer	-0.81 (-1.31, -0.32)	0.001*
Faculty < Peer	-0.85 (-1.39, -0.31)	0.002*
Faculty < Self	-0.57 (-0.98, -0.16)	0.007*
Near-Peer < Peer	-0.04 (-0.54, 0.47)	0.889
Near-Peer > Self	0.24 (-0.19, 0.67)	0.267
Peer > Self	0.28 (-0.18, 0.74)	0.237

*Statistically significant (P < 0.05)

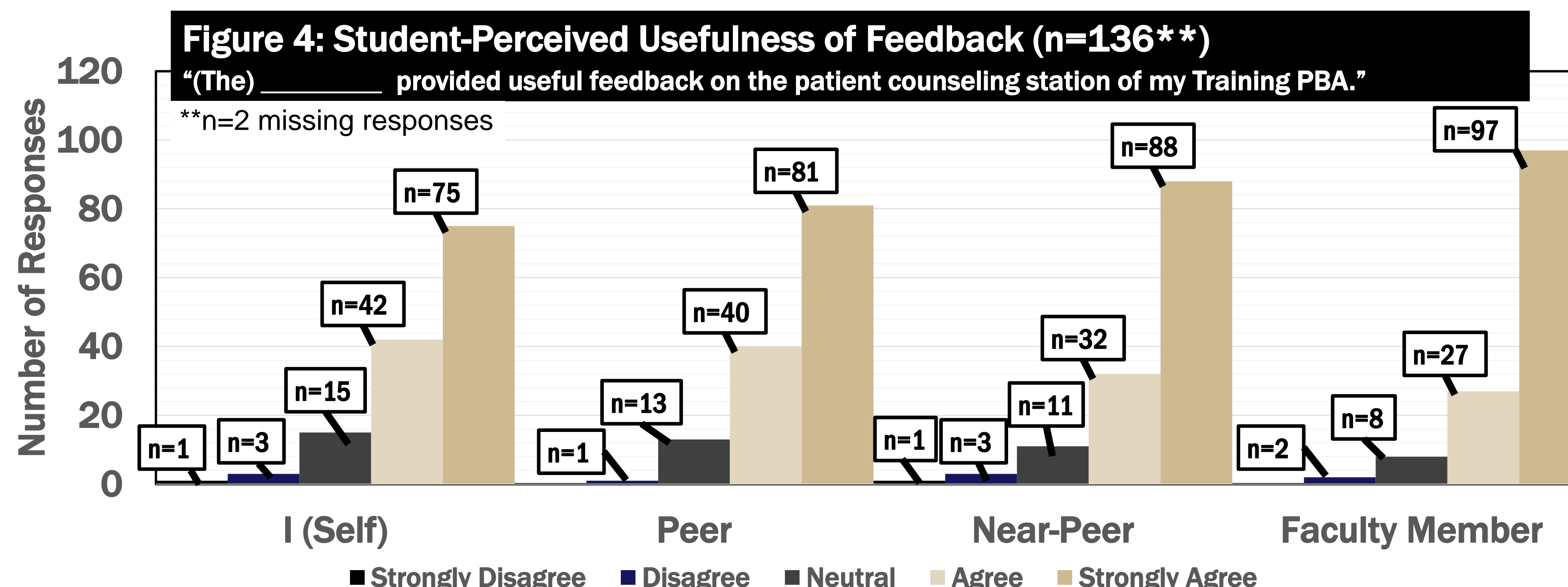
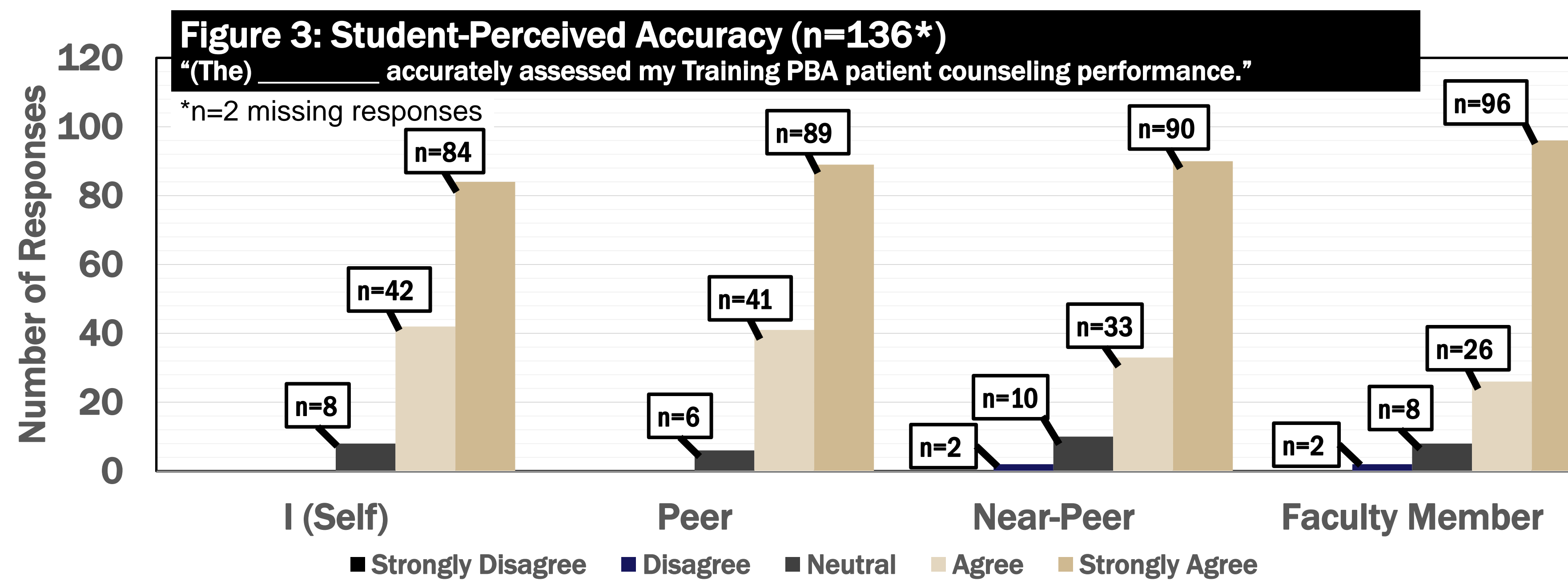
Secondary Objective Results

Self-Reported Demographics (n=138)

- Average Age:** 21 ± 1.2 (years ± SD)
- Gender:** Female (64%), Male (35%), Prefer Not to Answer (1%)
- Race (Select All That Apply):** White (67%), Asian (26%), Black (4%), Hispanic, Latino, or Spanish (2%), Other or Prefer Not to Answer (5%)

Figure 2: Response Rate

100%
(138/138)



Discussion

- The near-peer, peer, and self evaluations displayed statistically significant differences in scores when individually compared to faculty members (Table 1 & 2) which could be due to a multitude of factors including:
 - Use of faculty evaluators of various rank and experience introduces inter-grader variability
 - Near-peers may be less suited to be an assessor but rather be equipped to be an information provider, role model, and facilitator⁴
- Although statistically significant, the detected differences in scores were less than 1 point which may limit academic significance of the results (Table 1 & 2)
- Peers scored their classmates higher compared to faculty which has been previously observed in literature¹⁴
- Majority of students agreed that the self, peer, and near-peer evaluations were accurate and provided useful feedback in their PBA preparation (Figure 3 & 4)
 - Indicates the activity is meaningful for students and worth keeping in the curriculum
- A similar level of agreement was observed in accuracy and usefulness of near-peer assessment compared to faculty (Figure 3 & 4)
 - Reveals students' acceptance of learning from near-peers, which has been observed in another study¹⁵
- Minimal students reported disagreement in the accuracy of their evaluations (Figure 3 & 4)
 - May be due to the use of a standardized analytical checklists, however it should be noted the checklists have not undergone testing for reliability and validity

Limitations

- 6 different cases were used with varying point totals so scores were converted to percentages for analysis which can introduce variability of scores
- Data limited to only 1 semester and 1 activity
- Use of near-peers with different backgrounds and faculty members with varying years of experience
- No standardized training program was implemented which has been shown to reduce inter-grader variability¹⁶

Conclusions

- A statistically significant difference in scores was found among all non-faculty evaluator groups compared to faculty
- Students indicated the highest regard to faculty assessment in both perceived accuracy and usefulness of feedback
- Further research is needed to determine if non-faculty evaluators, such as near-peers, can reliably evaluate student performance in pharmacy PBAs

Disclosures

The authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.

References

