

Best Of Best Research and Innovation Abstracts

1 The Value of a Mentored-Peer Review Program to a Medical Education Journal

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Background: There is a lack of organized training opportunities for budding scholars to learn how to provide peer-review for scholarly submissions. Journals that often struggle to find sufficient quality reviewers are in an ideal situation to create such a program. The XX developed a novel, mentored peer-review (MPR) program in 2020 to provide an opportunity whereby education fellowship directors could mentor their fellows in reviewing journal submissions.

Objective: The purpose of this study was to compare the quality and turnaround time between traditional reviewers and MPRs with a secondary aim of increasing the available pool of high-quality reviewers. We hypothesized that the program would have significant benefit to the journal.

Methods: This was a prospective, observational study deemed exempt by the XX IRB. From 2020-2022, 24 geographically diverse education fellowships participated in the program. Reviews submitted by the journal’s traditional reviewers were compared to those of the MPR cohort. Both groups were asked to complete their reviews within two weeks. The review quality was scored by two editors, blinded to one another’s scoring and type of reviewer, using a validated scoring rubric. Data were compared using an independent t-test. Turnaround time from manuscript access to submission of a review was tracked. We also tracked the percentage of reviews provided by MPRs, those recognized for their high-quality and the number of participating fellows who subsequently provided independent reviews.

Results: Table 1 provides data related to the quality and turnaround time, comparing traditional reviews to MPRs. Table 2 reflects additional data trends related to the program.

Conclusions: The MPR program provided higher quality reviews than those of traditional reviewers and increased the high-quality reviewer pool without impacting turn-around time.

Reviewer Type	Number of Reviews	Mean Editorial Score/Standard Deviation
Traditional Reviews	256	3.28 +/- 1.04
Mentored Peer-Reviews	83	*4.20 +/- 0.79
Mean Turnaround Time (days)		
Traditional Reviews	258	9.86 +/- 4.59
Mentored Peer-Reviews	84	10.88 +/- 0.79

Table 1. Comparison of editorial scoring of reviews (1-5, 5=excellent) and turnaround time (access to submission) between traditional reviews and those produced from mentioned peer-reviews. *P <0.001 level.

Table 2. Additional data trends by year related to the mentored peer review program.

	2020	2021	2022
Percentage of high-quality review recognition represented by MPRs (Based on editors blinded scoring of manuscripts, 1-5 scale, Avg >4.0)	50.0% (11/20)	35.3% (6/17)	81.0% (17/21)
Participating Fellowship Programs in the MPR Program	14	19	24
Percentage of total reviews represented by MPRs	9.7% (16/165)	29.5% (39/129)	42.1% (12/28)
Prior participants of MPR program who have since served as independent reviewers	0	1	7

2 Impact of Form Changes on Consensus Regarding Competitiveness of Standardized Letters of Evaluation

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Background: Work reported at CORD in 2023 showed high faculty consensus regarding the competitiveness of standard letters of evaluation (SLOEs) and evidence that algorithms could predict these ratings with high accuracy using the SLOE template retired in 2022. It is unknown if these findings persist when the new version of the SLOE is used.

Objective: Measure consensus regarding competitiveness of SLOEs using the new format introduced in 2022, assess the ability of algorithms to predict consensus ratings, and compare results to previously reported data.

Methods: Using national data from the new SLOE as a blueprint, we created 50 simulated SLOEs representative of the national distribution. Seven experienced faculty from varied geographic regions ranked these SLOEs in order of competitiveness. Consensus was evaluated using levels of agreement established a priori. Two prediction models were tested to determine their ability to predict faculty consensus rankings: a point-based system derived by a senior author and a linear regression model.

Results: were compared to the prior study which used similar methods but with the previous version of the SLOE. A cutoff of +/- 10% was set as the threshold for a meaningful increase/decrease in agreement or prediction. Results Faculty consensus regarding SLOE competitiveness was stable to improved across all agreement levels (range: 1-17% increase in consensus). Prediction model performance was also stable with the only change in prediction >10% in the Exact agreement category for both models (+12% agreement in both cases). Predicted ranking correlation with consensus ranking was also stable, within .01 of previously reported levels for both models.

Conclusions: In a national sample of faculty evaluating simulated SLOEs, the degree of consensus regarding competitiveness and the ability of algorithms to predict consensus ranking was stable despite changes to the EM SLOE.

Figure 1A-C. Consensus rankings compared to individual rankings and predicted rankings.

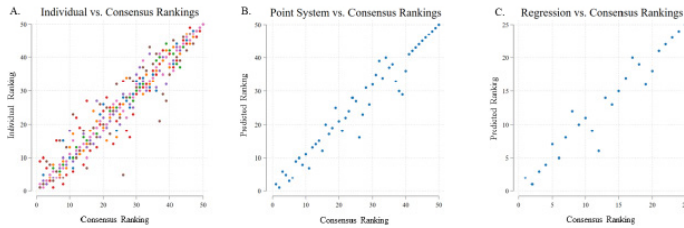


Table 1. Ranking agreement.

	Current Study 2022-2023 SLOE Format			Previous Study 2021-2022 SLOE Format			Difference		
	Consensus: Faculty Ratings	Prediction: Point System	Prediction: Regression	Consensus: Faculty Ratings	Prediction: Point System	Prediction: Regression	Consensus: Faculty Ratings	Prediction: Point System	Prediction: Regression
Exact	22%	24%	32%	21%	12%	20%	1%	12%	12%
Tight	84%	64%	72%	67%	62%	64%	17%	2%	8%
Close	92%	88%	84%	83%	82%	92%	9%	6%	-8%
Loose	97%	92%	92%	93%	90%	96%	4%	2%	-4%
Correlation with consensus	N/A	.97	.97	N/A	.97	.98	N/A	0	-.01

Exact: Percent of rankings where individual/predicted rank is exactly the same as the consensus rank
Tight: Percent of rankings where individual/predicted rank is within ± 4% of consensus rank
Close: Percent of rankings where individual/predicted rank is within ± 8% of consensus rank
Loose: Percent of rankings where individual/predicted rank is within ± 12% of consensus rank

3 Red Light or Green? Did Preference Signals Open Doors for EM applicants in the Match?

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Background: Preference signaling was new in the 2022-23 EM match. While preliminary data has been reported by ERAS, it only includes data extracted from applications. To our knowledge, the literature has not included data collected after the match to examine outcomes related to signaling.

Objective: We hypothesized that all applicants would be more likely to receive interviews at signaled programs (versus non-signaled programs), while competitive applicants would be most likely to match at a signaled program.

Methods: We performed a retrospective cross-sectional study utilizing a convenience sample of applicants who applied to two urban EM residency programs. Applicants were asked to complete a voluntary survey following the 2023 match results.

Results: 427 applicants completed the survey. On average, applicants reported 66.7%(SD 30.9%) of signals resulted in interview invites, compared to 49%(SD 47.3%) for non-signaled programs – a difference of 17.1%(95% CI: 12.1%, 22.1%, $p < 0.0001$). Respondents ranking themselves in the top third of applicants (by perceived competitiveness) received interviews from an average of 79.1%(SD 24.8%) of

signaled programs, compared to 59.9%(SD 31.1%) for the middle third and 41.2%(SD 30.4%) for the lower third (table 1)– a significant difference ($F = 37.5, p < 0.0001$). 30.3% of the top third group, 41.1% of the middle, and 17.6% of the lower matched a signaled program (table 2)– indicating a relationship between perceived competitiveness and matching a signaled program ($X^2 = 8.57, p = 0.014$).

Conclusions: Applicants were more likely to receive interviews from signaled programs and perceived competitiveness correlated with interview rates (suggesting some validity in applicant ability to self-assign competitiveness). Applicants who identified as middle third were most likely to match a signaled program. Limitations include retrospective data collection, self-reported data, and the 2023 match climate (i.e., fewer applicants than prior years).

Table 1. Applicant self-assignment by perceived strength of application and percentage of signals sent that resulted in interview invitations.

		Frequency (N = 427)	Percent (100%)	
Perceived competitiveness of applicant:	Top 1/3 of applicants	186	43.6%	
	Middle 1/3 of applicants	189	44.3%	
	Lower 1/3 of applicants	45	10.5%	
	Missing	7	1.6%	
		N	Mean	SD
Percent of signaled programs that turned into interviews for applicants:	Top 1/3 of applicants	178	79.1%	24.8%
	Middle 1/3 of applicants	179	59.9%	31.1%
	Lower 1/3 of applicants	38	41.2%	30.4%

Table 2. Percentage of applicants that matched at a signaled program, categorized by self-reported perceived competitiveness.

Matched with signaled program	Self-reported competitiveness			Total
	Lower 1/3 of applicants	Middle 1/3 of applicants	Top 1/3 of applicants	
Yes	6 (17.6%)	65 (41.1%)	47 (30.3%)	118 (34%)
No	28 (82.4%)	93 (58.9%)	108 (69.7%)	229 (66%)
Total	34 (100%)	158 (100%)	155 (100%)	347 (100%)

4 The Effect of Hospital Boarding on Emergency Medicine Resident Productivity

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Background: Emergency department boarding has escalated to a crisis; impacting patient care, hospital finances, physician burnout, and contributing to error. No prior study has studied the effects of boarding on resident productivity. If boarding reduces productivity, it may have negative educational impacts.

Objectives: We investigate the effect of boarding on resident productivity as measured by patients per hour and hypothesize that increased boarding leads to decreased productivity.