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Do Year-To-Year Changes in In-Service Training Exam Performance Predict First-Attempt Success on Written Board Certification?

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Tukey's post hoc test. RCAS eSLOE scores with and without grades were compared using a T-test. This project was deemed exempt by the IRB.

Results: 917 SLOEs from 454 applicants were analyzed. There was a statistically significant difference in mean eSLOE score between scoring methods ($F(2,1359)=7.93$, $p<0.001$). Post-hoc analysis found that the mean eSLOE score was significantly different between our internal score and the standard RCAS score including grades ($p<0.001$, CI=2.06-9.37) and the RCAS score with grades excluded ($p=0.004$, CI=1.31-8.62). Grades were unavailable for 63 applicants (13.9%). The RCAS eSLOE score with grades excluded resulted in increased scores for 214 (54.7%) applicants by an average of 6.5 (SD=4.6, $p<0.001$) and in decreased scores for 177 applicants (45.3%) by an average of 5.8 (SD=4.4, $p<0.001$).

Conclusion: The RCAS eSLOE score is calculated differently if the applicant received a pass/fail clerkship grade. Given the absence of standardization in EM clerkship grading, we question the utility of including the clerkship grade when calculating eSLOE scores due to added statistical variability which limits comparisons between applicants.

Table 1. Analysis results.

Scoring Tools		Mean Difference (x1-x2)	Std. Error	Confidence Interval		p-value
(x1)	(x2)			Lower	Upper	
Internal Score	ResidencyCAS Standard Score (including clerkship grade)	5.71*	1.10	p<0.001	9.37	p<0.001
Internal Score	ResidencyCAS Score with Clerkship Grades Excluded	4.96*	1.10	p<0.001	8.62	p<0.001
ResidencyCAS Standard Score (including clerkship grade)	ResidencyCAS Score with Clerkship Grades Excluded	0.75	1.10	p=0.88	4.41	p=0.88

Applicant Categories	n. (%)	Standard ResidencyCAS Score (including clerkship grades)		ResidencyCAS Score with Grades excluded		Average of Differences	SD of Differences	t-test
		M	SD	M	SD			
Applicants with increased eSLOE scores	214 (54.7%)	64.3	23.6	70.8	21.0	6.5	4.6	20.6*
Applicants with decreased eSLOE Scores	180 (46%)	52.4	22.9	46.7	24.4	-5.8	4.4	-17.5*

*Statistically significant with p<0.001

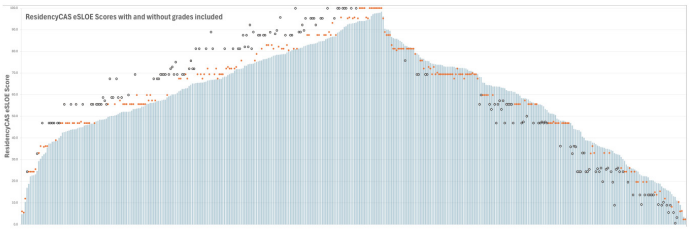


Figure 1. Applicant eSLOE scores with and without grades included. Blue bars represent standard eSLOE scores (weighted 33% each for clerkship grade, guidance, and expected rank list position). Orange circles represent the recalculated eSLOE score with grades excluded (50% weight for guidance and expected rank list position). White circles indicate statistically significant score increases or decreases when grades were excluded.

3 Do Year-To-Year Changes in In-Service Training Exam Performance Predict First-Attempt Success on Written Board Certification?

Brian Walsh, Fred Fiesseler

Background: In-service training examinations (ITE) are used annually to gauge resident progress, but the predictive value of changes in ITE performance for successfully passing the ABEM Qualifying Board Exam remains under-explored. We sought to determine whether year-to-year ITE percentile changes / improvements (deltaITE) forecast first-pass success on specialty written boards.

Methods: Retrospective cohort of all residency graduates (2015–2024). ITE percentiles were recorded in PGY-1, PGY-2, and PGY-3. deltaITE1-2 and deltaITE2-3 were computed as percentile point gains. Primary outcome was passing the ABEM Qualifying Board Exam on the first attempt as reported by the residents to the program director. Logistic regression modeled odds of first attempt pass success by deltaITE thresholds, adjusted for initial ITE percentile. ROC analysis evaluated deltaITE-based prediction. We further analyzed a subgroup of at-risk residents who had a low baseline ITE defined as less than the 30th percentile.

Results: 86 total residents were included in the analysis. Mean deltaITE1-2 was +19.4 (SD16.1); deltaITE2-3 was +12.8 (SD10.3). Each +10-point gain in deltaITE1-2 raised odds of first-pass success by 2.9-fold (OR 2.91, 95% CI: 1.8–4.7, $p<0.001$). DeltaITE2-3 of +15 points independently predicted success (OR 5.6, 95% CI: 2.3–13.8, $p<0.001$). Combined deltaITE model AUC = 0.91 (95% CI: 0.85–0.97). In the low-baseline subgroup (n=28), sustained deltaITE > +10/year yielded 93% first-pass rate versus 43% if deltaITE <= 0 ($p<0.001$). DeltaITE alone explained 41% of variance in first-pass success.

Conclusion: Year-to-year ITE improvement is a robust, independent predictor of first-attempt board success, outperforming static scores. Monitoring deltaITE enables early identification of at-risk residents, supporting targeted intervention to maximize first-pass rates.

4 Understanding the Decline in Emergency Medicine Qualifying Examination Pass Rates

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Background: The American Board of Emergency Medicine (ABEM) Qualifying Examination (QE) is a key step in physician certification. In 2024, the first-time pass rate dropped to 82%, the lowest in recent history, raising concerns about resident