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Describing Preliminary Data on Scoring Using the Standardized Letter of Evaluation (SLOE) 2.0 Format

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Assessment Tool (QSAT) from self-evaluation, a junior resident, an EMS provider, nursing, and two EM faculty. In both sims communication to a toxicologist and intensivist were measured using the 5C's model. The summed QSAT and 5C scores were correlated using Pearson's correlation coefficient with Fisher's z transformation; interpreted as weak (<0.3), moderate (0.3-0.7) and strong (>0.7). Significance was set at 0.05. Positive correlation indicates synchronous movement of scores, negative correlation asynchronous movement.

Results: Table 1 presents 32 ACLS sims. There were moderate positive correlations between all MSF and averaged consultant 5Cs [r=0.412, 95% CI (-0.011, 0.710)] in males, and between average faculty QSAT and intensivist 5C [r=0.589, 95% CI (-0.198, 0.914)] in females. The remaining correlations were weak. 34 residents led the PALS sim (Table 2). Surprisingly, there was a moderate negative correlation between the average attending QSAT score and the Intensivist 5C score in males [r=-0.390, 95% CI (-0.697, 0.038)]. The remaining correlations were weak. All correlations in both sims lacked significance.

Table 1. Correlation of QSAT and 5C's Score in adult simulations stratified by resident gender.

| QSAT Metric | 5C's Metric | Gender | n | Standard Correlation Coefficient (r) ^a | Fisher's z Transformed Coefficient (zr) [95% CI] ^b | p-value ^c |
|---------------------------|--------------------------------------|--------|----|---|---|----------------------|
| Average (All Raters) | Average (Toxicologist & Intensivist) | Male | 22 | 0.412 | 0.438 (-0.011, 0.710) | 0.0561 |
| | | Female | 8 | 0.103 | 0.163 (-0.649, 0.753) | 0.8171 |
| Average (Faculty Only) | Average (Toxicologist & Intensivist) | Male | 22 | 0.190 | 0.193 (-0.252, 0.566) | 0.4014 |
| | | Female | 8 | -0.248 | -0.254 (-0.811, 0.553) | 0.5708 |
| Average (Attendings Only) | Toxicologist Only | Male | 22 | 0.178 | 0.180 (-0.263, 0.558) | 0.4323 |
| | | Female | 10 | 0.056 | 0.056 (-0.595, 0.662) | 0.8927 |
| Average (Attendings Only) | Intensivist Only | Male | 22 | 0.067 | 0.067 (-0.365, 0.475) | 0.7693 |
| | | Female | 8 | 0.589 | 0.676 (-0.198, 0.914) | 0.1308 |

^a4 assessments were missing either the Test or Int 5C's score, therefore the average score is also missing, which changes the n depending upon the correlation pairing.
^bPearson correlation coefficient.
^cFisher's z transformed Pearson correlation coefficient.
^dp-value corresponds to the Fisher's z transformed correlation coefficient and 95% CI

Conclusions: In this single site cohort, stratified by team lead resident gender, clinical and communication sim performance do not appear correlated. While there were isolated moderate correlations, they were mixed. This suggests that regardless of gender, clinical performance and communication should be independently evaluated.

Table 2. Correlation of QSAT and 5C's Score in pediatric simulations stratified by resident gender.

| QSAT Metric | 5C's Metric | Gender | n | Sample Correlation Coefficient (r) ^a | Fisher's z Transformed Coefficient (zr) [95% CI] ^b | p-value ^c |
|---------------------------|--------------------------------------|--------|----|---|---|----------------------|
| Average (All Raters) | Average (Toxicologist & Intensivist) | Male | 19 | 0.166 | 0.168 (-0.311, 0.577) | 0.5016 |
| | | Female | 12 | 0.006 | 0.006 (-0.570, 0.578) | 0.9852 |
| Average (Attendings Only) | Average (Toxicologist & Intensivist) | Male | 19 | -0.040 | -0.040 (-0.485, 0.422) | 0.8736 |
| | | Female | 12 | 0.149 | 0.150 (-0.465, 0.666) | 0.6522 |
| Average (Attendings Only) | Toxicologist Only | Male | 20 | 0.281 | 0.289 (-0.185, 0.643) | 0.2341 |
| | | Female | 12 | 0.090 | 0.090 (-0.510, 0.631) | 0.7867 |
| Average (Attendings Only) | Intensivist Only | Male | 22 | -0.390 | -0.412 (-0.697, 0.038) | 0.0727 |
| | | Female | 12 | 0.160 | 0.161 (-0.456, 0.672) | 0.6293 |

^a4 assessments were missing either the Test or Int 5C's score, therefore the average score is also missing, which changes the n depending upon the correlation pairing.
^bPearson correlation coefficient.
^cFisher's z transformed Pearson correlation coefficient.
^dp-value corresponds to the Fisher's z transformed correlation coefficient and 95% CI

4 Describing Preliminary Data on Scoring Using the Standardized Letter of Evaluation (SLOE) 2.0 Format

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Background: The Standardized Letter of Evaluation (SLOE) is a very important part of an emergency medicine (EM) bound student's application. The SLOE helps provide objective data on students' performances on EM rotations and helps residency programs screen applicants. The SLOE 2.0 introduced changes to the SLOE and so far there is no data to understand distribution of scores using the SLOE 2.0.

Objective: The objective of this study was to describe the initial distribution of scores on the SLOE 2.0.

Methods: This study was a multi-institution, retrospective cross-sectional study using SLOE 2.0 data from the 2022-2023 application cycle from 5 geographically distinct EM programs across the United States. SLOEs from 4-week EM electives were included and duplicate SLOEs from the 5 institutions were excluded. Also excluded were subspecialty or OSLOEs, SLOEs not written by a faculty group of other qualified person, SLOEs from letter writers that wrote <5 SLOEs last year, or SLOEs with incomplete data. Since Part A and Part C were qualitative questions, they had to be converted to a quantitative point system. We assessed the means, medians, and distribution of scores for

each of the questions in Part A and Part B, as well as the anticipated guidance (AG) and anticipated position on rank list (RL) questions in Part C.

Results: We gathered data from 1775 EM-bound applicants, comprising 3687 SLOEs. Table 1 demonstrates the distribution of scores for each component of the SLOE 2.0. The distributions of scores for each question showed a right-skewed distribution for Part A, Part B, and the AG and RL questions.

Conclusion: To our knowledge, we presented the first preliminary data on distribution of scores using the SLOE 2.0. This data will be useful for EM programs to use when learning how to use and analyze SLOE 2.0 scores. This is preliminary data that requires many further studies.

Table 1. Number and percent of SLOE 2.0 scores with varying responses for each question in the A, B, and C sections (n=3,687)

| Question | Fully Eristable # (%) | Mostly Eristable # (%) | Pre-Eristable # (%) | | |
|---|-----------------------|------------------------|---------------------|------------|------------------|
| A1 Ability to perform a focused history and physical exam | 2744 (74.42%) | 905 (24.55%) | 38 (1.03%) | | |
| A2 Ability to generate a differential diagnosis | 2058 (55.84%) | 1531 (41.52%) | 97 (2.63%) | | |
| A3 Ability to formulate a plan | 1749 (47.44%) | 1818 (49.31%) | 120 (3.25%) | | |
| A4 Ability to perform common ED procedure | 1912 (51.86%) | 1485 (40.55%) | 55 (1.49%) | | |
| A5 Ability to recognize and manage basic emergent situations | 2215 (60.13%) | 1391 (37.73%) | 79 (2.14%) | | |
| Question | 5 # (%) | 4 # (%) | 3 # (%) | 2 # (%) | 1 # (%) |
| B1 Compassion, sensitivity, and respect towards patients and team members | 1710 (46.38%) | 1469 (39.84%) | 483 (13.10%) | 23 (0.62%) | 2 (0.05%) |
| B2 Receptivity to feedback and ability to incorporate feedback | 1597 (43.31%) | 1535 (41.63%) | 504 (16.67%) | 49 (1.33%) | 2 (0.05%) |
| B3 Dependability, responsibility, initiative, and work ethic | 1860 (50.45%) | 1319 (35.77%) | 459 (12.45%) | 45 (1.22%) | 4 (0.11%) |
| B4 Punctuality, attendance, and preparation for duty | 1946 (50.07%) | 1317 (35.72%) | 486 (13.18%) | 34 (0.92%) | 4 (0.11%) |
| B5 Timeliness and responsiveness in completing administrative tasks | 1650 (44.75%) | 1390 (35.70%) | 588 (15.98%) | 55 (1.49%) | 3 (0.08%) |
| B6 Interpersonal and communication skills with patients and family members. | 1699 (46.08%) | 1498 (40.36%) | 471 (12.77%) | 26 (0.71%) | 2 (0.05%) |
| B7 Interpersonal and communication skills with faculty, residents and healthcare professionals. | 1694 (45.95%) | 1382 (37.48%) | 530 (14.97%) | 69 (1.87%) | 12 (0.33%) |
| Question | Minimal | Standard | Moderate | Most | |
| C1 Anticipated Guidance | 1289 (34.96%) | 1884 (51.10%) | 425 (11.53%) | 89 (2.41%) | |
| Question | Top 10% | Top 1/3 | Mid 1/3 | Lower 1/3 | Unlikely to Rank |

5 Verifying the Effectiveness of Gamification as a Teaching Modality Compared to Lecture-Based Didactics

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Background: Multiple studies of emergency medicine

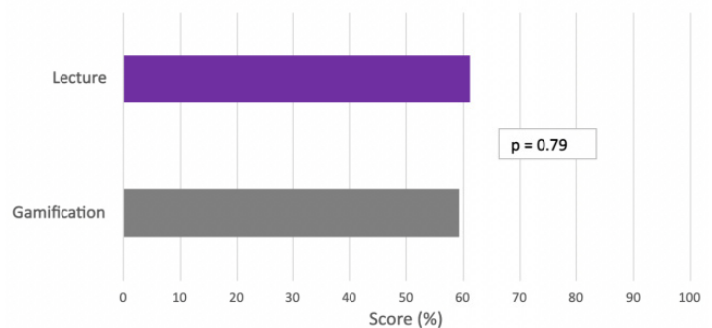
(EM) learners have demonstrated that gamification improves engagement and enjoyment. Few studies have examined its effectiveness compared to traditional lectures past enjoyment.

Objective: We sought to examine gamification versus traditional lecture focused on the diagnosis and management of postpartum hemorrhage (PPH). We hypothesized that learners who underwent gamification would report more enjoyment and have non-inferior performance in a PPH simulation.

Interventions: This is a randomized, prospective trial of EM residents at a single urban, academic program. A pre-test of PPH knowledge was administered. Residents were randomly assigned to learn about PPH in a 60-minute lecture or board game during weekly didactics. A posttest following the educational intervention was conducted, as was a survey about enjoyment of the learning activity. 6-8 weeks later, residents were grouped according to lecture or gamification and participated in a simulation of PPH. Residents were scored using the validated OBS-PPH tool.

Results: There were no statistically significant differences between pre and post-test knowledge of PPH (p=0.49 and p=0.23, respectively) between groups. Average scores for satisfaction, engagement, enjoyment, and whether they would recommend the session to others was significantly higher for gamification (p<0.05). For the OBS-PPH score, the gamification groups (n=12) had a mean score of 59.43%. Groups who received lecture (n=12) had an average score of 61.40%. A two tailed t-test revealed no statistically significant difference between groups (p=0.78).

Figure 1. OBS PPH score.



Conclusions: In the instruction of clinical management of PPH, gamification was viewed more favorably. There were no differences in knowledge gained, or in simulation performance using the OBS-PPH score. This suggests that gamification may serve as a tool to improve learner satisfaction without sacrificing educational value.