What's Our Next Step? Evaluating the Relationship of Exam Performance and Matriculation Information to STEP 2 CK Scores

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Introduction

- The NBME has announced that Step 1 USMLE will no longer deliver numerical scores, instead the exam will become Pass/Fail starting January 26th 2022.[1]
- There is strong speculation that Step 2 CK USMLE will replace Step 1 USMLE in its role in competitive residencies selecting which medical students they would like to interview.[1]
- In order for a medical school to provide its best quality education possible for its student, faculty must understand what allows students to achieve a high Step 2 CK USMLE score.
- This project examined factors such as exam scores and matriculant background information to determine their relationship to Step 2 CK scores.

Methods

- Data stored for 281 students was examined using ordinary squares least linear regression.
- 281 students at Wayne State University School of Medicine class of 2023 took the Step 2 CK USMLE during the 2021-2022 school year.
- The dependent variable was first time STEP 2 CK three-digit score.
- Independent variables included:
  - Gender
  - Age
  - Undergraduate science GPA
  - MCAT percentile,
  - Underrepresented in medicine status (URiM)
  - CCSE score
  - Surgery shelf exam scores
  - Pediatrics shelf exam scores
  - Family medicine shelf exam scores
  - OB/GYN shelf exam scores

Figure 1

Figure 1: Average score of dependent variables which could be measured out of 100 with M1 and M2 averages for reference.

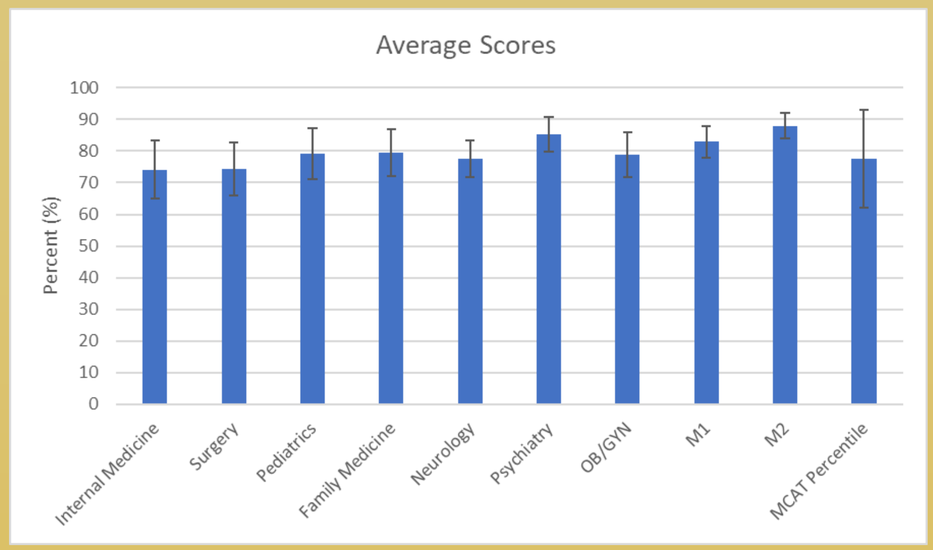

Figure 2

Figure 2: Dependent variable's relationships to STEP 2 CK score.

	Estimate	Std. Error	T Value	Pr(>|t|)
(Intercept)	107.61	10.77	9.99	**<2e-16*** **
Surgery	.239	.0849	2.82	**.005156** **
Pediatrics	.334	.0897	3.73	**.000234*** **
Family Medicine	.382	.0886	4.31	**2.31e-5*** **
OB/GYN	.379	.0952	3.98	**8.80e-5*** **
CCSE	.151	.0311	4.86	**1.96e-6*** **
Gender	1.892	.9642	1.96	.050755.
URiM	-1.974	1.3933	-1.42	.157657
Age	-.348	.2177	-1.60	.111093
sGPA	-.424	1.6884	-.25	.801625
MCAT Percentile	.110	.0393	2.81	**.005389** **

Results

- R^2 = 73.28%
- 73.28% of variance in Step 2 CK USMLE can be explained by the following factors:
- **Surgery shelf exam score** Pr(>|t|)=.005156
- **Pediatrics shelf exam score** Pr(>|t|)=.000234
- **Family medicine shelf exam score** Pr(>|t|)=2.31e-05
- **OB/GYN shelf exam score** Pr(>|t|)=8.8e-05
- **CCSE score** Pr(>|t|)=1.96e-06
- **MCAT percentile** Pr(>|t|)=.005389
- The alpha value is .05 and N = 281.

Conclusion

- Among our examined factors, we found CCSE, MCAT, surgery, pediatrics, family medicine and OB/GYN shelf scores to be significantly correlated to STEP 2 CK success.

References

1. Chretien K. The step 1 exam is going pass-fail. now what? AAMC. https://www.aamc.org/news-insights/step-1-exam-going-pass-fail-now-what#:~:text=The%20daylong%20exam%20%E2%80%94%20usually%20taken,become%20a%20pass-fail%20exam. Published January 11, 2022. Accessed February 27, 2022.