

RadDiscord Perspective on the Correlation and Predictive Power of Practice Questions with ABR Core Exam Scores

Hazel Asumu, Resident, Vanderbilt University Medical Center

Introduction

Passing the American Board of Radiology (ABR) Core Exam represents an important milestone during both Diagnostic Radiology and Interventional Radiology residencies. Over the past eight years, between 10 to 16% of first-time examinees fail the Core Exam annually. Understanding the factors associated with higher exam scores is useful to Program Directors and trainees as they prepare to take future exams. RadDiscord, an international virtual radiology education community, has a large member base, including 470 residents who have taken the June 2021 Core exam. This provided a unique ability to query different study materials and methods of preparation.

Hypothesis

Completing more practice questions is correlated with higher Core Exam scores. Question bank performance is correlated with Core Exam scores and has varying degrees of predictive power for Core Exam performance.

Methods

June 2021 examinees in the RadDiscord community were given an anonymous survey, which collected information regarding demographics, length of dedicated study time, number of practice questions completed, perception of study resources, and performance on practice questions including the ABR practice exam and DXIT In-Service exams. The collected data was analyzed using univariate linear regression and unequal variance t-test.

Results

A total of 136 residents on RadDiscord responded (out of 470, or 29%). The mean Core Exam score for survey respondents was 474 (stdev 72.9, n = 135), which was significantly higher ($p = 0.0004$) compared to the national exam mean of 450 (stdev 85.3, n = 1,480). Respondents who completed at least 8,000 practice questions (n = 45) had a mean Core Exam score of 491, which was significantly higher ($p = 0.045$) compared to respondents who completed fewer than 8,000 practice questions (n = 90), who had a mean of 465. Higher performance on question banks such as RadPrimer Intermediate, ABR Practice exam, DXIT In-service, QEV-LAR question bank, and BoardVitals question bank (both percentile and percentage correct), also correlated positively with higher Core exam scores (all with $p = < 0.05$, n ranges from 80 to 118). Question bank performance appeared to be an unbiased predictor of Core Exam scores, with R-squared ranging from 0.04 to 0.40. The BoardVitals question bank peer ranked percentile demonstrated the highest predictive value (R-squared = 0.40, n = 110).

Conclusion

Data and predictive analysis from the RadDiscord survey may be useful to both future Core examinees and their educators to better prepare for a high-stakes exam and to maximize their chances of success.

Keywords

Applications; Educational Systems

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