

Correlation of Admission Variables and a Standardized PA Admission Exam

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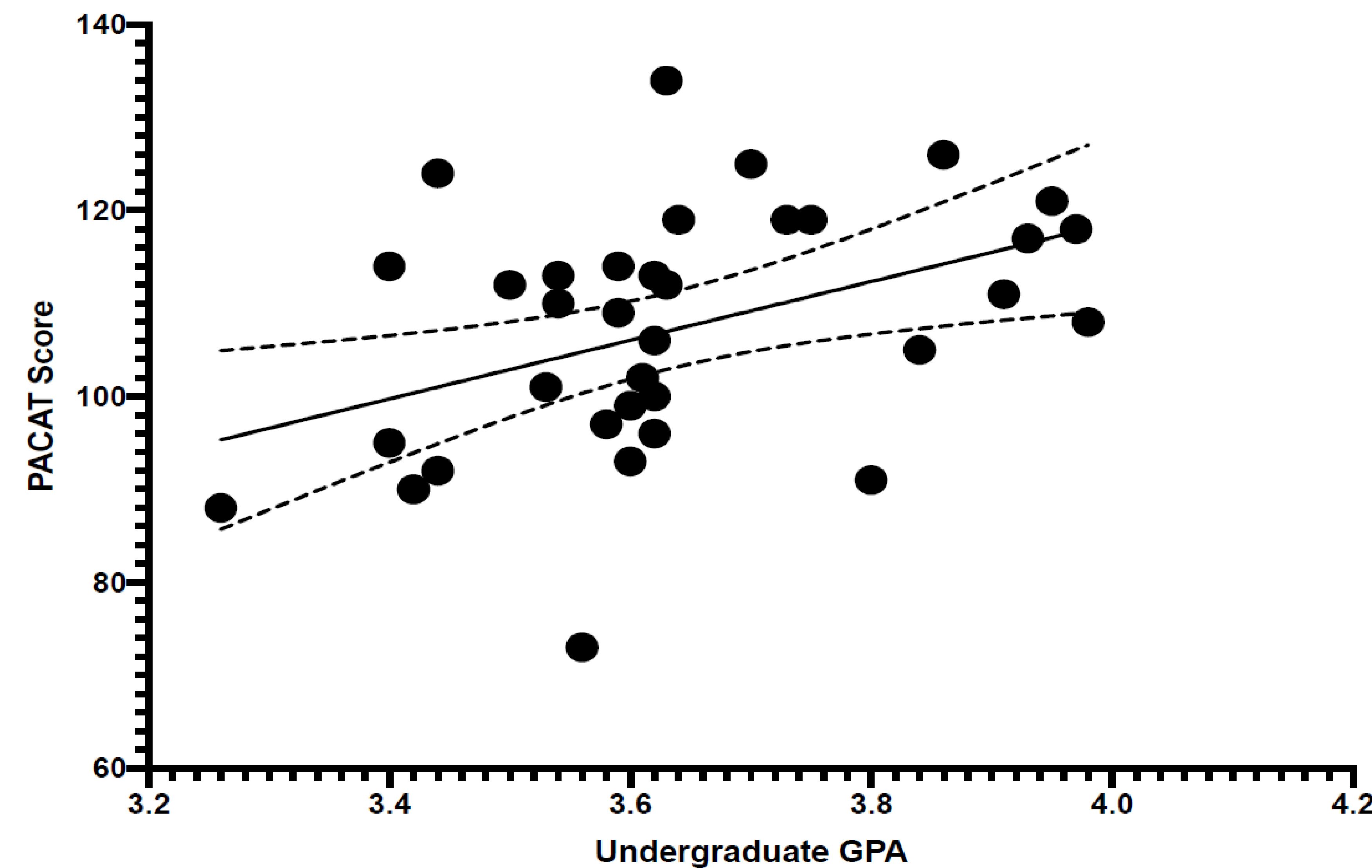
Background

- Candidate selection processes for physician assistant (PA) education admissions is heterogeneous and challenged by a lack of standards or guidance.^{1,2}
- In the academic and professional literature, there is a dearth of controlled studies, multi-center analyses, or studies of large populations; further, the published studies are generally small and offer inconsistent results.¹
- A standardized exam for PA applicants may guide admissions decisions and predict student success in achieving the necessary competencies during the program and upon completion.
- This study sought to determine the correlation between demographics, undergraduate academic performance, and the PA College Admission Test (PA-CAT), a standardized exam developed by Exam Master® Corporation for use in PA admissions.

Methods

- A cross-sectional study design and analysis of multiple administrative databases was performed after IRB approval.
- The dependent variable of interest was overall performance on the PA-CAT (Version 2.0), a standardized, 180-question exam that covers 12 subject areas commonly required by PA programs as preadmission coursework.
- Newly-matriculated PA students for the 2019 Spring Term academic semester completed the PA-CAT after their first week of pre-clinical coursework.
- Independent variables of interest included undergraduate GPA, scores on the Graduate Record Examinations (GRE) Verbal Reasoning and Quantitative Reasoning measures, pre-admission patient care hours, age, and gender.
- Descriptive statistics (e.g., means, standard deviations, frequencies) and linear regression were used to examine associations between dependent and independent variables.

Relationship Between PA-CAT Score and Undergraduate GPA



Exam Content Weighting	
Anatomy	15%
Physiology	15%
General Biology	10%
Genetics	10%
General Chemistry	10%
Microbiology	10%
Biochemistry	5%
Medical Terminology	5%
Organic Chemistry	5%
Psychology	5%
Sociology	5%
Statistics	5%

Exam Cognitive Levels	
Knowledge	22%
Comprehension	19%
Application	41%
Analysis	16%
Synthesis	1%
Evaluation	1%

Results

- Complete data was available from 36 PA trainees (77% female, 23% male, 0% nonbinary) with a mean age of 24.5 years (SD 4.2).
- The mean PA-CAT score was 107.1 (SD 13.2) out of 180.
- Higher undergraduate GPA and higher scores on the Quantitative Reasoning and Verbal Reasoning components of the GRE were associated with higher PA-CAT scores ($p < 0.05$).
- For every one unit (whole number) increase in GPA, the PA-CAT score increased by 31.5 points ($p < 0.05$).
- Mean PA-CAT scores did not differ by age, gender, or by the number of patient care hours completed prior to PA program matriculation ($p > 0.05$).

Conclusions

- The standardized admission exam may have some promise as an admissions variable, at least in its correlation with undergraduate GPA and the commonly-required GRE.³
- Further study is necessary to:
 - Generalize these results to a larger population,
 - Analyze social identities and backgrounds that may impact exam performance, and
 - Identify potential relationships between the exam and PA educational outcomes.

References

1. Moore S, Clark C, Haught A, et al. Factors associated with academic performance in physician assistant graduate programs and national certification examination scores: a literature review. *Health Professions Education*. 2018. doi:10.1016/j.hpe.2018.06.003
2. Honda T, Patel-Junankar D, Baginski R, Scott R. Admissions variables: predictors of physician assistant student success. *J Physician Assist Educ*. 2018;29(3):167-172. doi:10.1097/JPA.0000000000000212
3. Physician Assistant Education Association. By the numbers: program report 33: data from the 2017 program survey. Washington, DC: 2018. doi: 10.17538/PR33.2018