

Determination of Predictors Impacting Performance on the Pharmacy Curriculum Outcomes Assessment (PCOA) at a Historically Black College of Pharmacy

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BACKGROUND

- ❖ The Pharmacy Curriculum Outcomes Assessment (PCOA) is a nationally standardized examination that colleges of pharmacy can use to assess the strength of their curriculum.¹
- ❖ It is mandated that College of Pharmacy students nationwide take the PCOA as a means of assessing their knowledge of concepts they learned while in pharmacy school.¹
- ❖ Some studies have evaluated predictors of performance on PCOA. However, few studies have focused on largely minority students at Historically Black Colleges of Pharmacy and more data is needed to better understand factors affecting overall performance in professional school on (PCOA).
- ❖ Some studies have evaluated factors that may predict PCOA performance, such as pharmacy school grade point average (GPA) and PCAT Score.² For example, a study conducted at the North Dakota School of Pharmacy (NDSU) determined that pharmacy students in their P3 year who scored higher on the PCOA exam were more likely to score higher on the future NAPLEX exam.²

OBJECTIVE

The objective of the study is to determine the impact of preadmission and pharmacy school variables on PCOA performance at a historically black college of Pharmacy

METHODS

- ❖ A retrospective analysis was conducted using data from three cohorts of students that took the PCOA in their third professional year from 2015 to 2017.
- ❖ Descriptive statistics were used to analyze student demographic data, measures of academic performance and PCOA scores.
- ❖ A one-way ANOVA test was used to compare the difference in means for pharmacy school (PharmD) GPA and performance on the PCOA.
- ❖ Single and multiple linear regressions was conducted to determine predictors of PCOA scores.
- ❖ Data was also stratified by gender and class year to determine whether predictors of PCOA scores varied by these variables.
- ❖ SPSS version 23 was used to analyze the data.

RESULTS

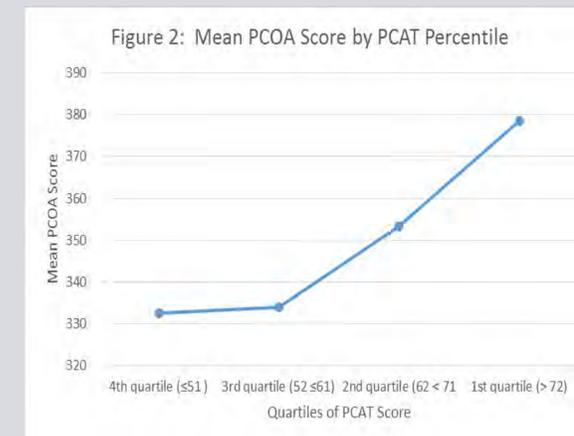
Table 1: Demographic Characteristics of Pharmacy Students

AGE AT ADMISSION		24.6 (4.94)
PCAT SCORE		68.5 (13.7)
MATH INTERVIEW SCORE (OUT OF 40)		29.5 (4.64)
ADMITTED GPA		3.34 (0.30)
ADMITTED SCIENCE GPA		3.20 (0.35)
GPA DURING 1ST SEMESTER IN PHARMACY SCHOOL		3.13 (0.55)
CUMULATIVE GPA BY GRADUATION		3.30 (0.32)
PROBATION DURING FIRST SEMESTER		
· Yes	15 (9.3%)	
· No	179 (90.7%)	
GENDER		
· Male	100 (51.3%)	
· Female	95 (48.7%)	
RACE/ETHNICITY		
· Black	128 (65.6%)	
· Non-Black	67 (34.4%)	
TYPE OF DEGREE		
· Bachelors	145 (74.4%)	
· Associates	15 (7.7%)	
· Masters or Higher	1 (0.5%)	
· No prior Degree	34 (17.4%)	

Table 2: Linear Regression Model of Variables Predictive of 3rd Year PCOA Scores in a HBCU

Variable	Unstandardized Beta Coefficient	P-value
Constant	61.25	0.04
PCAT score	1.15	<0.001
First semester GPA	3.36	0.75
P3 Fall GPA	63.81	<0.001
Off-track	10.77	0.27

Abbreviations: GPA=Grade Point Average; PCAT=Pharmacy Admissions Test



SUMMARY

- ❖ There were 182 students that took the PCOA during the study period, and the mean PCOA among these individuals was 62.7.
- ❖ Approximately two thirds of (67.0%) students were black, and over half (54.9%) were female.
- ❖ The PCOA score during the 3rd year was significantly correlated with the PCAT score, the GPA during the fall semester of the third professional year, and whether or not an individual was on probation during their first semester in pharmacy school.
- ❖ After adjusting for other factors, the cumulative GPA during the P3 fall semester (P<0.001) and PCAT scores (p<0.001) were predictive of student's P3 PCOA scores. Students with a 3rd year GPA in the upper quartile had a mean PCOA score of approximately 385 compared to a PCOA score of approximately 320 for students with a 3rd year GPA in the lowest quartile.
- ❖ Students with higher PCAT scores also had higher PCOA scores.

CONCLUSION

The GPA during pharmacy school and PCAT score are important factors in helping to predict PCOA scores among 3rd year professional students at an HBCU

REFERENCES

1. ACPE. *PharmD Program Accreditation*. 2016; Available from: <https://www.acpeaccredit.org/pharmd-program-accreditation/>.
2. Naughton, C.A., Friesner, D. L., *Correlation of P3 PCOA scores with future NAPLEX scores*. *Currents in Pharmacy Teaching and Learning*, 2014. 6(6): p. 877–883.