



Pharmacy Curriculum Outcomes Assessment (PCOA) as a Predictor of Performance on NAPLEX



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Introduction

- PCOA exam is administered annually to P3 students in January at the Wegmans School of Pharmacy.
- PCOA provides a formative assessment to evaluate student progress in relation to the pharmacy curriculum.
- The School uses results from the PCOA to:
 - Provide an external check on our internal assessment of achievement of curricular outcomes
 - Recognize students who achieve > 90th percentile
 - Foster advisor and student relationships

PCOA Content Areas	Revised NAPLEX Content Areas
<ul style="list-style-type: none"> Basic Biomedical Sciences Pharmaceutical Sciences Social/Behavioral/Administrative Sciences Clinical Sciences 	<ul style="list-style-type: none"> Ensure Safe and Effective Pharmacotherapy and Health Outcomes Safe and Accurate Preparation, Compounding, Dispensing and Administration of Medications and Provision of Healthcare Products

Objective

- The purpose of the study was to respond to students' inquiry regarding the relationship between student performance on the PCOA and performance and on the NAPLEX administered post-graduation.

Methods

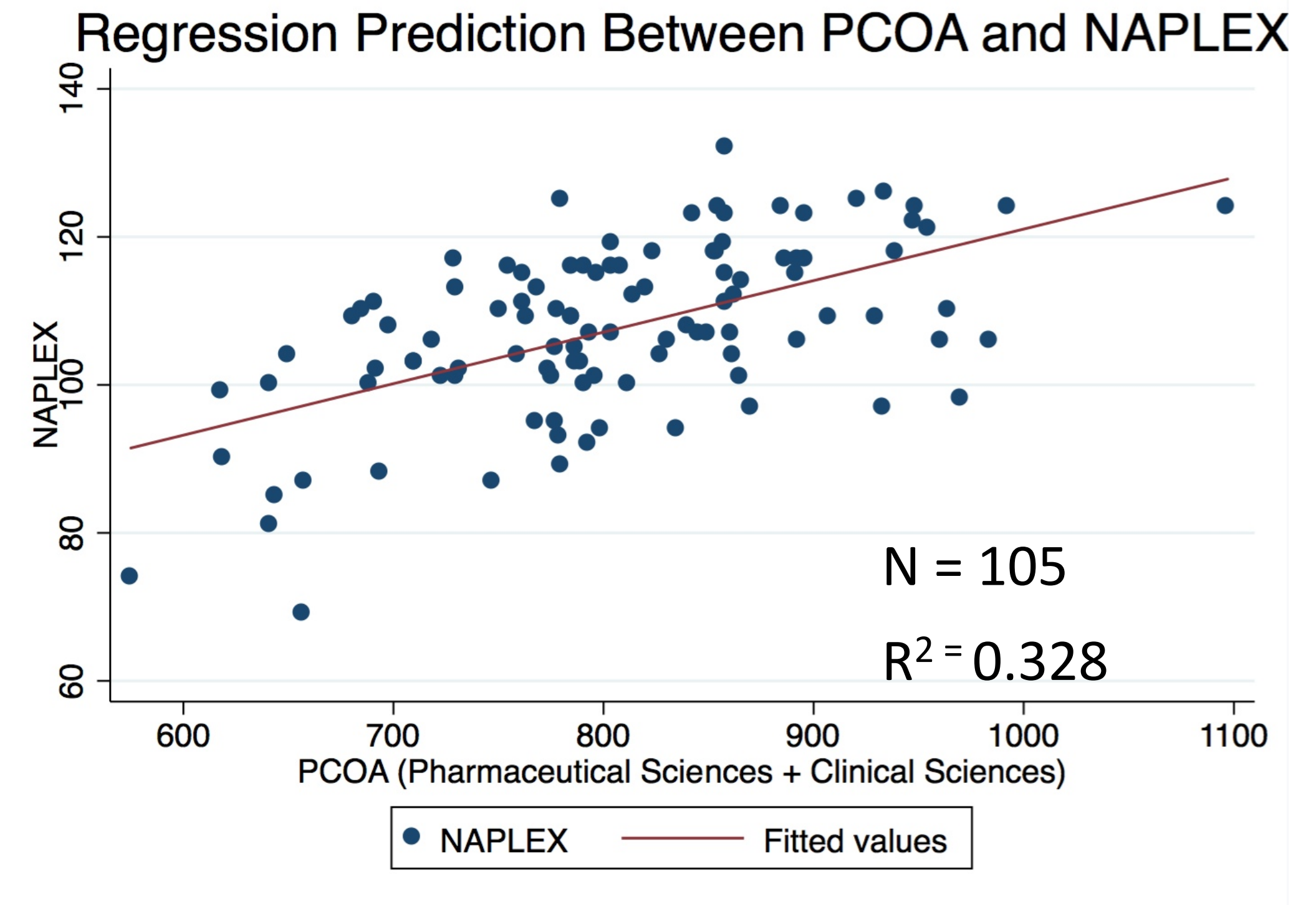
- PCOA scores for two of the four content areas (Pharmaceutical Sciences and Clinical Sciences), resulting from administration of the assessment in 2012 and 2013 were compared to the same student scores for the 2013 and 2014 NAPLEX taken post-graduation.
- Pearson product-moment correlation coefficient was calculated to measure the linear correlation between the two sets of exam scores; Linear regression was used to explain the predictor, PCOA, variability on NAPLEX

Results

Variable (n = 105)	Mean (± SD)	Minimum Score	Maximum Score
Pharmaceutical Science	392.1 (± 51.4)	237	524
Clinical Science	414.4 (± 54.9)	288	582
Pharmaceutical Science + Clinical Science	806.5 (± 94.7)	575	1097
Total PCOA Score	392.9 (± 43.1)	296	535
NAPLEX Score	107.6 (± 11.5)	69	132

	Pharmaceutical Science	Clinical Science	Pharmaceutical Science + Clinical Science	Total PCOA Score	NAPLEX Score
Pharmaceutical Sciences	1.0000				
Clinical Science	0.585*	1.0000			
Pharmaceutical Science + Clinical Science	0.883*	0.898*	1.0000		
Total PCOA score	0.875*	0.843*	0.964*	1.000	
NAPLEX Score	0.534*	0.486*	0.572*	0.563	1.000

*Pearson's Product Moment Correlation Coefficient



- Predicted NAPLEX = $51.4 + 0.70 (\text{Pharmaceutical Science} + \text{Clinical Science})$

Conclusions

- There was a strong positive correlation between the content areas of the PCOA (Pharmaceutical Sciences and Clinical Sciences) and NAPLEX scores, $r = 0.572$, $p < 0.0005$
- 32.8% of the variation in NAPLEX scores can be explained by the content areas of Pharmaceutical Sciences and Clinical Sciences

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