Predictors of Professionalism Issues in Physician Associate Students

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OBJECTIVE

Begin to explore possible predictors of students at risk for professionalism issues within the Physician Associate Program.

BACKGROUND

Students come to their health professions education with different levels of professional maturity. This makes the educator's role of transitioning the student from layperson to clinician a challenging one. Professional issues have long-term repercussions for the student, clinicians, patients, and society. Educators believe that professional competencies can be taught and cultivated; therefore it is important to identify at-risk students early in the education process so that interventions can be put in place, if needed.

We investigated a possible link between early academic performance on a medical terminology exam and student professionalism issues demonstrated later in the program in three cohorts of physician assistant (PA) students. We began our exploration with the medical terminology exam for two reasons. First, PA faculty held the belief that this exam was a predictor of future academic success and professionalism based on long-standing oral history, and second, because the exam is given at the start of the program and students are required to prepare for it on their own prior to the first day of school. We hypothesized that certain non-cognitive characteristics that might predispose students to place less emphasis on academic preparation or see the exam as not important might also lead to poor academic choices and unprofessional behavior later in the course of study.

METHOD

Data for 102 PA students was collected retrospectively from September 2011-January 2016. The following variables were examined: medical terminology exam grades, aggregate professionalism scores across five domains from clinical preceptor evaluations, a global professionalism score (GPS), and the Physician Assistant National Certification Exam (PANCE) scores. The global professionalism score (GPS) was created for each student. The GPS is a subjective impression of each student's professional character. The score was based on long-term, close interactions with each student over the course of the 28-month curriculum. Three faculty and three administrative staff reviewed class photos of the students enrolled during the study period and individually determined whether a particular student demonstrated professional behaviors during their student tenure or not. Three faculty then categorized each student as: exceptionally professional who consistently exceeded expectations; generally professional with no professionalism concerns; somewhat unprofessional with only occasional professionalism concerns; and exceptionally unprofessional defined as those with extreme, surprising, or concerning behaviors. Descriptive statistics were calculated and bivariate correlational analysis was performed.

Figure 1. Global Professionalism Score (GPS), by category

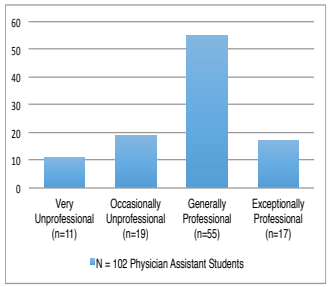

Table 1. Study Variables, descriptive statistics

Variable	Min	Max	Mean (SD)	Median
Med Term Exam (%)	76	100	89 (6.18)	92
PANCE Exam *	323	647	484.64 (66.86)	483
Professionalism: Attendance & Effort	4.13	5.00	4.64 (0.17)	4.67
Professionalism: Relationships with Patients	4.25	5.00	4.63 (0.16)	4.64
Professionalism: Professional Relationships	4.04	5.00	4.64 (0.18)	4.65
Professionalism: Self-directed Learning	3.69	4.91	4.41 (0.23)	
Professionalism: Overall Professional Conduct	4.23	5.00	4.68 (0.16)	4.70

*PANCE exam is scaled score that is adjusted to allow for comparison over time and among different groups.
*The minimum reported score is 200, and the maximum reported score is 800.

Table 2. Correlations

	Med Term Exam	PANCE Exam	Attend & Effort	Pt Relationships	Prof Relationships	Self-Directed	Prof Conduct
Med Term Exam	1						
Sig. (2-tailed)							
PANCE Exam	**.364**	1					
Sig. (2-tailed)	**.000**						
Attend & Effort	.110	**.233**	1				
Sig. (2-tailed)	.272	**.020**					
Pt Relationships	.155	.182	**.800**	1			
Sig. (2-tailed)	.123	.070	**.000**				
Prof Relationships	.134	**.267**	**.821**	**.879**	1		
Sig. (2-tailed)	.183	**.007**	**.000**	**.000**			
Self-Directed	.086	**.262**	**.750**	**.696**	**.767**	1	
Sig. (2-tailed)	.394	**.008**	**.000**	**.000**	**.000**		
Prof Conduct	.077	**.280**	**.837**	**.841**	**.872**	**.763**	1
Sig. (2-tailed)	.442	**.005**	**.000**	**.000**	**.000**	**.000**	

Bold text = correlation is significant at the 0.05 level (2-tailed)

RESULTS

- Performance on the medical terminology exam was not correlated to overall professionalism as measured by clinical preceptor evaluations.
- The medical terminology exam was moderately and positively correlated to PANCE performance (r = .364; p=.00).
- However, when PANCE scores were stratified by GPS, group differences emerged. The medical terminology exam was well correlated to the PANCE performance for the exceptionally professional (r=.525, p=.03), generally professional (r=.480, p=.00), and those who were somewhat unprofessional (r=.522, p=.026). For the exceptionally unprofessional category, the medical terminology exam was not correlated to PANCE performance (r= -.222; p=.513).
- PANCE performance showed a weak, but significant correlation to professionalism (r=.280; p=.00).
- The different professionalism constructs measured by the clinical preceptor evaluation were highly and positively correlated.

CONCLUSIONS

PA student performance on the medical terminology exam was not associated with overall professionalism in this analysis, however, PANCE performance was found to be weakly associated with professionalism measures.

The medical terminology exam was moderately correlated to PANCE performance. This was expected and thought to be explained by the student's self-directed learning skill. However, professionalism may impact the relationship between these exams and may have skewed the interpretation of our results. When we looked more closely, differences in the relationship between the medical terminology exam and PANCE performance were identified when groups were stratified by GPS.

More research is warranted. Going forward, we need to more precisely and accurately measure professionalism and use that variable to explore whether or not the medical terminology exam, and other possible early indicators, can predict unprofessional behavior. We plan to develop the GPS as a quick, but effective, measure. We also plan to further explore and validate the professionalism items on the clinical preceptor evaluation tool. Those items were very strongly correlated (r > .80) to each other in our analysis and raise concern that they may be measuring the same construct and not different aspects of professionalism as intended.

In general, educators believe that professionalism can be taught and lapses in professionalism remediated, in most cases. Early identification of students at-risk is the key because professional formation requires time, redundancy, and perseverance.

LIMITATIONS

The study was limited by the lack of objective professionalism measurements. For example, the only measurement available was the professionalism scores from clinical preceptor evaluations. We plan to further develop objective measures of professionalism including the GPS and other markers that could be used to help faculty identify early those students who may benefit from timely intervention and remediation.

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