

A Pilot Study Assessing PA Students' Self-Assessment of Professionalism

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BRIEF REPORT

Purpose: This was a pilot project to develop a survey tool to measure students' self-perception of professionalism and to measure change in their perception over the course of their didactic year of study. **Methods:** A 15-item pre- and posttest using a 5-point Likert-type scale measured the quality of professionalism among a nonrandom sample of 43 students at the onset of their training and 9 months later. Paired t-tests identified changes in dimensions of professionalism from time I to time II. **Results:** Significant decreases were found in three major dimensions of professionalism: commitment to the service of others, open-mindedness, and belief in the importance of professional attire. **Conclusions:** It appears that some aspects of professionalism actually decrease during educational training, according to our results and at least one other study. The reasons for the decrease would be a future area to explore. On a Likert-type scale, discrimination on each of the dimensions is difficult to capture. A visual analogue scale may be more sensitive for future research.

INTRODUCTION

Professionalism is defined as “sets of attitudes and behaviors specific to professions.”¹ The Competencies for the Physician Assistant Profession require physician assistants (PAs) to demonstrate a commitment to excellence as well as ongoing professional development, self-reflection, critical curiosity, and initiative.² This was a pilot project to develop a survey tool to measure students' self-perceptions of professionalism and to measure changes in their perceptions over the course of their didactic year of study.

The professionalism research conducted on students from a variety of health professions reveals a common struggle. The difficulty arises with developing and operationalizing a measurement tool to assess both student attitudes and their associated behaviors, which are vital to the definition of professionalism. Professionalism is often thought to be recogniza-

ble when it is encountered (“I know it when I see it”) but its exact components are difficult to specifically describe. Through a thorough review of existing literature, we concluded that four dimensions describe professionalism: excellence, humanism, accountability, and altruism.

America's medical schools are increasingly focusing on ethics and the development of professionalism in their students. There have been attempts to measure and foster professionalism via responses to case scenarios, the requirement of professional portfolios, proctor evaluations of “bedside manner,” etc.³ Pharmacology schools, physical therapy programs, and dental schools are exploring professionalism as a key component of their training and have struggled to define and measure this quality. Hammer used the findings from the American College of Pharmacy Teachers focus group to develop a

Feature Editor's Note:

The topic of teaching and assessing PA students regarding professionalism has received considerable attention from PA educators in recent years. This study presents an interesting look at the changes in PA students' perceptions related to issues of professionalism that occurred during their training. The findings from this study raise questions regarding how PA educators can most effectively influence positive changes in PA students' professionalism.

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measurement tool that attempted to quantify behaviors through a 25-item behavior scale that attempted to measure dimensions of professionalism through specific behaviors. For example, the dimension of humanism would be measured by appropriate dress, punctuality, honesty and maintenance of confidentiality.¹

With respect to the concept of humanism, a number of studies have examined the impact of attire on the patient's and practitioner's perception of degree of professionalism. Broskey et al studied patients' perceptions of professionalism of both dental faculty and students, and found that nearly 80% of patients agreed that the students' appearance and attire were reflective of the care they would receive in the future.⁴ Mazor et al found that physicians tended to not value professional attire while lay raters and standardized patients did.⁵ Taub and Parsi noted the "casualization" of the workforce and questioned this effect on the therapeutic relationship in medicine.⁶ Other dimensions of humanism were studied by Case and Swanson, who looked at the concept of students' ability to maintain confidentiality and honesty with patients in a case-based OSCE format.⁷ They found that raters appear to vary in both attention to and evaluation of behaviors and that interrater reliability was problematic.

A number of researchers have developed measurement scales to address the concepts of excellence and altruism. For example, the Jefferson Scale of Physician Lifelong Learning has proven both reliable and valid as a measure of excellence, using lifelong learning as a proxy.⁸ The concept of altruism was measured objectively by McGaghie et al, and their research has shown that altruism can be increased via education, practice, and reinforcement.⁹

Arnold and colleagues discussed

students' struggles with peer assessment. In a study of University of Toronto Medical School students, they found that preclinical students were more willing to report their peers' generic unprofessional behavior than were fourth-year students.¹⁰ The University of Exeter's Peninsula Medical School measured the effectiveness of 360-degree assessments of professional behavior in clinical settings,³ and concluded that this type of evaluation enhances learning and behaviors. The ratings were shown to have a positive bias (generosity error) and provided limited discrimination.³

Attempts to enhance professional development — and to assess student professionalism — have utilized videotaped segments depicting students' actions in difficult professional situations and then required students to write a reflection paper,¹¹ as well as portfolios, defined by Ben-David et al as a "purposeful collection of evidence gathered by individuals in their roles as learners, recording and reflecting."¹² In Ben-David's study, students collected supervisors' comments regarding their professional behavior along with their own reflections in their personal portfolios. This provided a qualitative description of professional behavior; however, it lacked quantified measurement.¹²

The mandate to teach and measure professionalism in our students has highlighted the struggle to operationalize the concept. Once the concept has been defined, the issue of a tool to measure it becomes critical. The many types of measurement tools as discussed above do not offer a complete picture, but in combination provide a more comprehensive assessment of professionalism.

METHODS

This study focused on the key characteristics that comprise the professionalism scales used in other disciplines

and refined them to reflect the Standards of the Accreditation Review Commission on Education for the Physician Assistant.¹³ During the development of our professionalism measurement tool we recognized that professionalism consists of four conceptual qualities: excellence, humanism, accountability, and altruism.¹⁴ Excellence is operationalized as a commitment to lifelong learning and regular participation in classroom discussions.¹⁵ Humanism is demonstrated by respect for commitments in the form of punctuality, appropriate attire, maintaining confidentiality, and honesty.¹⁶ Accountability is measured by taking responsibility for one's actions, open-mindedness, and ability to give and receive criticism.¹⁶ Altruism is reflected in volunteerism and a commitment to equal medical care for all.⁹ Validated surveys have been used by a number of research groups to measure this difficult concept.^{17,18}

This study used a 15-item questionnaire designed to solicit student attitudes and behaviors regarding parameters of professionalism. The survey instrument was developed based on conceptual parameters developed by the American Board of Internal Medicine¹⁶ and was refined to reflect the PA accreditations standards. The questionnaire and the study were reviewed and approved by our university's institutional review board.

A 5-item Likert-type response scale was developed and utilized to assess the subject's attitudes regarding various components of professionalism. The questionnaire garnered seven demographic variables and requested information on the qualities and components of professionalism in health care; these are presented in List 1. Questionnaires were administered to 43 students in September 2005 (time I) at the onset of the core curriculum as a pretest measure, and a

List 1. Components of Professionalism in Health Care

- Takes responsibility for actions
- Commitment to service to others
- The value of lifelong learning
- Commitment to equality of care
- Honesty
- Open-mindedness
- Professional attire
- Punctuality
- Confidentiality
- Participating and taking responsibility for the learning process
- Ability to give or receive criticism
- Values new challenges

100% response rate was obtained. Responses were anonymous and were administered on paper. Nine students left the program through attrition by the end of the didactic year. A posttest was administered to the remaining 34 students in May of 2006 (time II), at the conclusion of two semesters of didactic study. Information was gathered for gender, age, highest degree attained, type of professional license, previous work experience, minority status, and years of medical experience. This was designed to determine demographic effects on mean scores for each dimension of professionalism using a two-tailed *t*-test at the 0.05 probability level.

RESULTS

Table 1 presents the differences observed between the pre- and posttests. In the results of the self-assessment by students, significant differences were found in the dimensions of “commitment to the service of others,” “open-mindedness,” and “professional attire” between time I and time II. Students actually decreased their commitment to volunteerism by the end of their didactic year. The dimension of open-mindedness also decreased significantly from time I to time II as did respondents’ views that professional attire should be required of a PA. During the students’ in-classroom didactic

Table 1. PA Student Self-Ratings of Professionalism at Time 1 and Time 2

Questions Related to Professionalism	N	Time 1	Time 2	t-value (df)	P value
I take full responsibility for my actions.	34	4.58	4.73	-1.53 (33)	.13
I look for and take opportunities to volunteer my time in the service of others.	34	3.70	3.29	2.35 (33)	.02
How important is the role of continuing education to the Physician Assistant profession?	34	4.70	4.73	-.37 (33)	.71
I feel that all people should receive equal medical care regardless of personal beliefs, race, creed, level of intoxication or ability to pay.	34	4.58	4.38	1.19 (33)	.24
I am totally honest and trustworthy.	34	4.50	4.55	-.529 (33)	.60
I am an open-minded person.	34	4.35	4.14	2.02 (33)	.05
Physician Assistants should dress professionally in business attire while in the office or hospital (excepting surgery).	34	4.52	4.47	.373 (33)	.71
I feel that attire is an important component of professionalism.	34	4.29	4.38	-.902 (33)	.37
Patients judge a medical professional's competence by the way they dress.	32	4.31	4.03	2.18 (31)	.03
I feel that it is critical to be on time for appointments.	34	4.58	4.61	-.274 (33)	.78
I feel maintaining confidentiality is paramount in medicine.	34	4.76	4.70	.812 (33)	.42
I participate in class discussions.	34	3.82	3.67	.818 (33)	.41
I come to class on time.	34	4.79	4.88	-1.13 (33)	.26
I am not afraid to give or to receive criticism.	34	3.88	3.76	.812 (33)	.42
I seek out and take on new challenges before most other people.	34	3.79	3.73	.373 (33)	.71

There were gender differences trending towards significance on three of the 15 questions related to professionalism at Time 1. These included the role of CME in the PA profession ($M = 4.5$; $F = 4.8$; $t = -1.60$ (df = 20); $p = 0.97$); being open-minded ($M = 4.53$; $F = 4.23$; $t = 1.74$ (df = 22); $p = .079$); and, fear of giving or receiving criticism ($M = 4.15$; $F = 3.71$; $t = 1.88$ (df = 32); $p = .069$).

At Time 2, there were statistically significant differences between male and female students on two questions. These included the role of CME in the PA profession ($M = 4.46$; $F = 4.90$; $t = -2.27$ (df = 15); $p = .038$) and fear of giving or receiving criticism ($M = 4.07$; $F = 3.57$; $t = 2.55$ (df = 32), $p = 0.16$). An independent *t*-test was run.

Table 2. Differences in Self-Assessment of Professionalism for Female PA Students from Time 1 to Time 2 (N = 21)

Questions Related to Professionalism	Time 1	Time 2	t-value (df)	P value
I take full responsibility for my actions.	4.47	4.76	-2.33 (20)	.03
I look for and take opportunities to volunteer my time in the service of others.	3.85	3.47	1.60 (20)	.11
How important is the role of continuing education to the Physician Assistant profession?	4.80	4.90	-1.00 (20)	.32
I feel that all people should receive equal medical care regardless of personal beliefs, race, creed, level of intoxication or ability to pay.	4.47	4.52	-.25 (20)	.80
I am totally honest and trustworthy.	4.47	4.57	-.62 (20)	.54
I am an open-minded person.	4.23	4.19	.37 (20)	.71
Physician Assistants should dress professionally in business attire while in the office or hospital (excepting surgery).	4.57	4.71	-1.1 (20)	.26
I feel that attire is an important component of professionalism.	4.38	4.47	-.81 (20)	.42
Patients judge a medical professional's competence by the way they dress.	4.38	4.04	2.09 (20)	.04
I feel that it is critical to be on time for appointments.	4.61	4.66	-.32 (20)	.74
I feel maintaining confidentiality is paramount in medicine.	4.80	4.76	.56 (20)	.57
I participate in class discussions.	3.90	3.80	.49 (20)	.62
I come to class on time.	4.80	4.85	-.43 (20)	.66
I am not afraid to give or to receive criticism.	3.71	3.57	.82 (20)	.41
I seek out and take on new challenges before most other people.	3.85	3.85	.000 (20)	1.00

year the program instituted a dress code for the first time, which required business casual or scrubs with a clean white lab coat. Other dimensions of professionalism remained consistently high from time I to time II (see Table 1).

Comparisons in all dimensions between males and females showed trending differences in gender valuation of “commitment to lifelong learning,” with males rating it lower than females. Males significantly decreased their open-mindedness from time I to time II (see Table 3). Females were more likely to take full responsibility for their actions at time I compared to time II and were significantly less convinced by the end of their didactic year that patients judge a medical professional’s competence by the way he or she dresses (see Table 2). Demographic variables revealed some

significant correlations in addition to those relating to gender. The older students were, the more they valued timeliness in both the classroom setting and their professional appointments. Another correlation uncovered was that the higher the level of education achieved, the greater the student’s perception of his or her level of honesty, trustworthiness, and open-mindedness.

DISCUSSION

One explanation for the decrease in commitment to the service of others could be that the intensity of the program resulted in a “time crunch,” leaving little energy in reserve for any task but program obligations. A similar finding was discovered by Hojat et al in their comparison of first- and third-year medical residents with nurse practitioners.¹⁹ With regard to

professional attire, faculty felt that students were eager to adhere to the dress code at the beginning of their professional training; however, as time went on their enthusiasm paled. This was confirmed by a student focus group. The decrease in open-mindedness perhaps is explained because students felt more controlled by the significant demands of the program as time went on.

The limitations of this study include the loss through attrition of nine students, which could affect the results. It should also be noted that self-reported data might be skewed in the direction of students’ perceived faculty expectations. The study is a pilot project that evaluates a year of data in a single program, and although it suggests some interesting findings, it cannot be generalized to all other programs. This research should be con-

Table 3. Differences in Self-Assessment of Professionalism for Male PA Students from Time 1 to Time 2 (N=13)

Questions Related to Professionalism	Pre	Post	t-value (df)	P value
I take full responsibility for my actions.	4.76	4.69	.56 (12)	.58
I look for and take opportunities to volunteer my time in the service of others.	3.46	3.00	1.72 (20)	.111
How important is the role of continuing education to the Physician Assistant profession?	4.53	4.46	.56 (12)	.58
I feel that all people should receive equal medical care regardless of personal beliefs, race, creed, level of intoxication or ability to pay.	4.76	4.15	1.97 (12)	.07
I am totally honest and trustworthy.	4.53	4.53	.000 (12)	1.00
I am an open-minded person.	4.53	4.07	3.20 (12)	.00
Physician Assistants should dress professionally in business attire while in the office or hospital (excepting surgery).	4.46	4.07	1.10 (12)	.29
I feel that attire is an important component of professionalism.	4.15	4.23	-.43 (12)	.67
Patients judge a medical professional's competence by the way they dress.	4.08	4.08	.80 (12)	.44
I feel that it is critical to be on time for appointments.	4.53	4.53	.00 (12)	1.00
I feel maintaining confidentiality is paramount in medicine.	4.69	4.61	.56 (12)	.58
I participate in class discussions.	3.69	3.46	.64 (12)	.53
I come to class on time.	4.76	4.92	-1.4 (12)	.16
I am not afraid to give or to receive criticism.	4.15	4.07	.29 (12)	.76
I seek out and take on new challenges before most other people.	3.69	3.53	.61 (12)	.54

tinued in other PA programs, with attention paid to trends and changes among student populations.

This research attempted to assess PA students' perceptions and attitudes toward the authors' conceptual model of medical professionalism. We attempted to measure the evolution of this dynamic quality over the course of their didactic training.

On a Likert-type scale, discrimination on each of the dimensions is problematic to capture. In future attempts to quantify professionalism we suggest the use of a visual analogue scale, which has been proven valid and reliable in many types of research.^{20,21} This would allow a more discriminating score by which we could measure improvement or differences among students.

As difficult as it is to measure, professionalism must be fostered in our

students by mandate of the Competencies for the PA Profession and the ARC-PA Standards.²² Our efforts to develop it in our program will continue. The professional model must be revisited and redefined throughout both the educational process and practice milieu to ensure that professionalism does not erode. Additional efforts will be necessary to identify validated measures of professionalism.

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