

# Self-assessment of professionalism in physical therapy education

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Received 10 January 2011

Accepted 10 July 2011

## Abstract.

**OBJECTIVE:** With the physical therapy (PT) professions' advancement to the clinical doctorate degree and the promotion of autonomous practice, exemplary professional conduct is an expectation of the PT profession. PT education programs are being challenged to develop methods to teach and assess professional behavior.

**PARTICIPANTS:** Forty-three PT students (11 male and 32 female, ages 20–28 years) completed the APTA Professionalism in Physical Therapy: Core Values Self-Assessment (PPTCVSA) after their first 3 week clinical experience and again after their final clinical experience.

**METHODS:** A mixed design ANOVA compared participants' total professionalism scores and individual Core Value scores on the PPTCVSA after 3 and 33 weeks of clinical education. The effects of gender, age, and undergraduate area of study on growth in professionalism scores were also investigated.

**RESULTS:** Total PPTCVSA scores and individual Core Value scores on professionalism (accountability, altruism, compassion/caring, excellence, integrity, professional duty, and social responsibility) were higher after 33 weeks compared to scores after 3 weeks of clinical education. Female student's total professionalism scores were higher than male student's scores on both the first and second self-assessments. In addition, female students scored themselves higher than their male peers on accountability, excellence, integrity, and professional duty.

**CONCLUSIONS:** Improved scores on the PPTCVSA indicate that physical therapy education is playing an important role in the development of professional behavior, knowledge, and application in practice.

Keywords: Core values, healthcare, professional behaviors

## 1. Introduction

The rising cost of healthcare has prompted consumers to demand a higher standard of professionalism from all healthcare providers [22]. With the physical therapy professions' advancement to the clinical doctorate degree and the promotion of autonomous practice, exemplary professional conduct is an expectation of the profession [3]. Consumer expectations and the competition for financial resources have chal-

lenged healthcare educators to produce graduates who possess the attributes that patients desire [22]. Defining professionalism and identifying the best methods to teach and evaluate these behaviors have become the focus of much discourse among physical therapists as well as other healthcare professionals [1,2,6–8,10,14,20,24–26,28].

Epstein and Hundert [10] defined professionalism as “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice for the benefit of the individual and community being served.” Gleeson [14, p. 23] expanded the definition of professionalism for physical therapists to include, “communication; loyalty; membership and participation in

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professional organizations; appropriate dress and mannerisms; respect; behavior toward peers, patients, and those in authority; and work habits such as time management and stress management.” Despite the variety of definitions of professionalism in the literature, most healthcare professional organizations seem to agree on the core elements of professionalism as described by the American Board of Internal Medicine (ABIM): altruism, accountability, excellence, duty, honor and integrity, and respect for others [2,4,6,25].

Lack of professionalism has been cited as a growing concern in both medical schools and physical therapist education programs [2,6,16,19,28]. This concern has prompted increased discussion and analysis of the teaching and assessment of professional behaviors both in the academic and clinical settings [2,6,16,17,25,28,29]. Traditionally, the development of professional behaviors in medical education programs was expected, but neither cultivated nor specifically taught. Medical students have struggled with unclear expectations and mixed messages from faculty and peers on the subject of professional roles [19,25]. Historically, professionalism has been assessed within medical education programs through peer evaluation, academic and clinical faculty assessments, group surveys, and critical-incident reviews [6]. Concerns about current methods that evaluate professionalism at the same time and in the same manner as technical competency have prompted exploration and development of new tools to assess the professional behaviors of medical school interns and graduates of physical therapy educational programs [4,6,10,17,21,26]. The ABIM was one of the first organizations to develop a taxonomy to categorize the professional behaviors of medical students [2,25]. This taxonomy has now served as the basis for development of tools to assess professionalism including the American Physical Therapy Association’s (APTA) document, “Professionalism in Physical Therapy: Core Values Self-Assessment” [2,4,6].

## 2. Literature review

### 2.1. Definitions of professionalism

In Arnold’s review of the professionalism literature from the past 30 years, she cited multiple definitions of professionalism, professional behaviors, and humanism found in the medical education literature as well as related fields in healthcare [6]. Arnold reported on the evolution of the concept of profession

and the growing interest in the area of noncognitive characteristics in medical school students. Both positive and negative characteristics in the noncognitive or affective domain have been described under what is now termed professionalism or professional behaviors. Definitions of professionalism have been developed out of surveys, critical-incident reviews, and professional consensus [6,16]. Approximately 50% of medical schools currently have written criteria regarding professional behavior. Arnold described the variations in elements of professionalism identified by medical schools [6]. For example one college included: reliability, responsibility, honesty, integrity, maturity, respect for others, critique, altruism, interpersonal skills, and absence of psychological/chemical impairment. In contrast, a second college assessed only four aspects of professionalism: professional responsibility, self-improvement and adaptability, relationships with patients and families, and relationships with members of the healthcare team [6].

The American Board of Internal Medicine began looking at the issue of professionalism in the early 1980’s. At that time, several authors reported on the “humanism” of medical residents. This early research led to a larger medical education initiative in the mid-1990’s called Project Professionalism [2,6]. Since that time, attempts have been made to more fully define professionalism and to evaluate the methods that are currently utilized by medical schools to teach professionalism in their curriculum [6,10]. In 1990, a residency program was developed specifically to promote and teach professional behaviors to internal medicine interns [19]. Markakis et al. [19] identified the ABIM’s definitions of professionalism as the framework underlying their residency program. According to the ABIM, professionalism “comprises those attitudes and behaviors that sustain the interests of the patient above one’s own self-interest. Professionalism entails altruism, accountability, commitment to excellence, duty, and commitment to service, honor and respect for others” [19].

The focus on professionalism in both medical research and education has influenced and guided the development of professionalism constructs in physical therapy practice. Hayes et al. [16] discussed the affective behaviors of physical therapist students during clinical education which included both interpersonal and communication skills. Hayes et al. [16] identified categories and subcategories of affective behaviors reported by clinical instructors that provided information about student physical therapists’ clinical compe-

tence. Categories in the affective domain were identified as poor communication and unprofessional behavior. Subcategories under poor communication included: inappropriate nonverbal behavior, inappropriate interactions with patients and colleagues, and inappropriate response to feedback. Seven additional subcategories were reported under the unprofessional behavior category: poor stress management, poor work ethic, failure to accept responsibility, poor commitment to learning, failure to recognize limits, lack of common sense, and inappropriate personal behavior. Interestingly, the findings of Hayes et al. were similar to the four aspects of professionalism utilized by at least one medical school as reported by Arnold [6,16].

Wolff-Burke [28] and Hayes et al. [16] discussed the development and importance of the "Physical Therapist Generic Abilities," a tool that was developed by physical therapist educators at the University of Wisconsin-Madison to document and define professional behavior expectations of physical therapists [20]. The "Physical Therapist Generic Abilities" identifies ten behaviors that are critically important to physical therapy practice: commitment to learning, interpersonal skills, communication skills, effective use of time and resources, use of constructive feedback, problem-solving, professionalism, responsibility, critical thinking, and stress management [20]. Eight of the ten behaviors involve affective skills [20,28]. "The Physical Therapist Generic Abilities" was recently revised and re-named "Professional Behaviors for the 21<sup>st</sup> Century" [21].

In 2000, the APTA adopted Vision 2020 and a strategic plan to incorporate a professional doctoral level qualification which incorporated six key elements: Doctor of Physical Therapy, Evidenced-Based Practice, Autonomous Practice, Direct Access, Practitioner of Choice, and Professionalism [3]. An initiative that developed from this strategic plan was to define and describe specific behaviors and actions expected of physical therapy graduates with respect to professionalism [4]. In 2003, the Board of Directors of the APTA adopted, "Professionalism in Physical Therapy: Core Values", a document on professionalism in physical therapy practice, education, and research [4]. Professionalism in Physical Therapy: Core Values identifies and defines seven critical elements of professionalism: accountability, altruism, compassion/caring, excellence, integrity, professional duty, and social responsibility. This Core Values document closely resembles the ABIM's taxonomy of professional behaviors [4,6]. The Core Value document was further de-

veloped into the Professionalism in Physical Therapy: Core Values Self-Assessment (PPTCVSA) by adding a Likert-type response scale to each of the sample behaviors [4].

## 2.2. *Concerns about professional behaviors in physical therapist students*

The importance of professional qualities in health-care professionals has been documented in the literature frequently despite the lack of clearly defined components [1,10,22,28]. However, an increased awareness and the need to address this issue in physical therapy education has developed over the past ten years. Hayes et al. [16] documented unprofessional behaviors of student physical therapists through their interviews with thirty-two clinical instructors who reported on their experiences with forty anonymous students. These interviews identified 134 incidences of unprofessional behaviors that occurred between 1971 and 1994, with 73% of these incidences occurring during 1993 and 1994 [16]. Wolff-Burke [28] identified unacceptable behaviors of student physical therapists as reported by clinical instructors and discussed potential barriers to a clinical instructor's ability to address, document, and remediate unacceptable behaviors. Unclear expectations of professional behaviors for student physical therapists, lack of descriptions of unacceptable behaviors and some clinical instructors' inability to address these negative behaviors were all reported as potential barriers to the development of students' appropriate professional behaviors. In this study, eleven clinical instructors reported professional behavior problems with twenty-four students over an average of 8.9 years of clinical education [28].

Lunnen [18] investigated student physical therapists' perceptions of what employers' desire in physical therapist graduates. Lunnen [18] reviewed findings from several reports and task forces on healthcare education and employment and found that employers are valuing less technical knowledge and more skills relating to communication, cultural practice, responsibility, and the ability to work in teams. Lunnen [18] surveyed 276 employers of physical therapists and 188 student physical therapists to identify and compare their perceptions about the abilities, attributes, and qualifications that are desired by employers. The author found that both students and employers recognize the importance of essential professional behaviors for effective clinical practice and that employers value professional behaviors more than specialized credentials or knowl-

Table 1  
Mean core value and mean total professionalism scores

Core value elements	First completion	Second completion
Accountability (50)	36.7	45.05
Altruism (25)	16.09	19.88
Compassion/caring (55)	45.14	53.44
Excellence (55)	40.35	48.98
Integrity (60)	49.67	56.30
Professional duty (35)	27.00	31.60
Social responsibility (60)	31.72	42.63
Total score of all 7 core values (340)	246.67	297.88

edge. Lunnen [18] identified the top five ranked attributes identified by employers: ethical behavior, integrity, flexibility, strong work ethic, and positive attitude. These findings support the need to focus on the development of professional behaviors in physical therapy education and the need to clearly communicate expectation of desirable professional behaviors to student physical therapists [18]. In an attempt to address the growing concerns regarding professionalism in healthcare, the APTA developed a learning module on professionalism for all physical therapists [12]. This learning module and the PPTCVSA are gradually becoming integrated into physical therapy education programs as well as physical therapy clinical settings. As physical therapy education programs prepare physical therapists for entry into the workforce as independent practitioners of choice, identifying appropriate methods to evaluate professionalism has moved to the forefront. Research to explore teaching methods, learning environments, and evaluation of professional behaviors demonstrated by student physical therapists is essential to the advancement of physical therapy in today's challenging healthcare environment.

### 3. Purpose of study

Limited research findings were found that addressed the evaluation of professionalism and professional behaviors in Doctor of Physical Therapy (DPT) programs. This retrospective study begins to explore the questions, "Does clinical education impact the development of professionalism in DPT students? Is the APTA's *Professionalism in Physical Therapy: Core Values Self-Assessment* (PPTCVSA) able to document growth in professionalism scores of DPT students over time? Are there differences in students' self-assessment of professionalism based on gender, age, or area of undergraduate study?" Answers to these questions will help physical therapy programs develop and

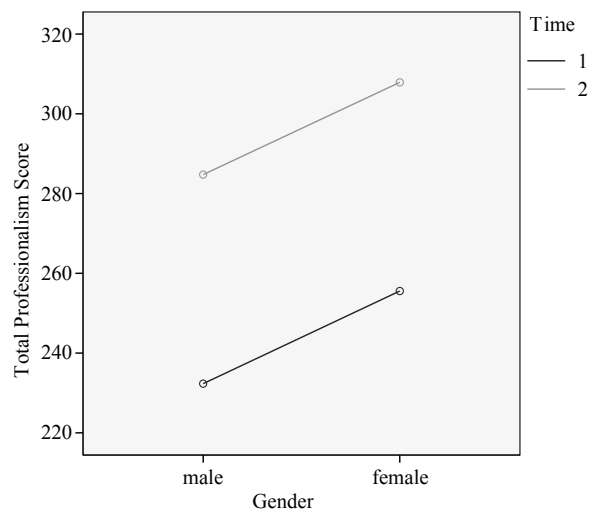


Fig. 1. Main effect for gender.

address specific elements of professionalism that appear to be underdeveloped in DPT students. This study was approved by Midwestern University's Institutional Review Board.

## 4. Methods

### 4.1. Participants

The DPT graduating class of 2009 consisted of 43 students (11 males, 32 females) with an age range from 20 to 28 years on entry to the program. The 2009 graduates originated from Illinois, Indiana, Michigan, and California. These students entered the graduate program with bachelors degrees in kinesiology, biology, health science, psychology, movement science, zoology, exercise science, biochemistry, and physical education.

### 4.2. Data collection

The PPTCVSA was developed by eighteen physical therapists who were invited to participate in a consensus based conference by the APTA's Education Division in 2002 [4]. These eighteen physical therapists were identified as having expertise in physical therapy practice, education, and research. The PPTCVSA consists of seven Core Values, which are rated on an ordinal response scale of 1–5 (1=Never, 2= Rarely, 3=Occasionally, 4=Frequently, and 5=Always). Users are instructed to circle the rating that best represents the frequency with which they demonstrate the behav-

Table 2  
Main effect for gender total professionalism score

Source	Type III sum of squares	df	Mean square	F	Sig.
Intercept	4052327.188	1	4052327.188	4873.942	0.000
Age	2520.112	1	2520.112	3.031	0.093
Gender	4926.484	1	4926.484	5.925	0.022
Areaofstudy	445.879	4	111.470	0.134	0.968
Age* gender	15.341	1	15.341	0.018	0.893
Gender*	2522.068	2	1261.034	1.517	0.237
areaofstudy					
Age* gender*	5684.928	4	1421.232	1.709	0.176
areaofstudy					
Error	23279.958	28	831.427		

Table 3  
Main effect for gender and age-integrity score

Source	Type III sum of squares	df	Mean square	F	Sig.
Intercept	145295.369	1	145295.369	4547.160	0.000
Age	170.033	1	170.033	5.321	0.027
Gender	196.193	1	196.193	6.140	0.018
Areaofstudy	99.184	4	24.796	0.776	0.548
Error	1118.355	35	31.953		

ior. A total professionalism score of 340 would be attained if participants rated themselves with a “5” on all sample behaviors. According to the instructions preceding the PPTCVSA, “The purpose of this tool is for the user to develop an awareness about the Core Values and to self-assess the frequency with which he or she demonstrates the seven Core Values based on the sample indicators that describe what the physical therapy practitioner would be doing in daily practice” [4].

The PPTCVSA was first introduced to the DPT students during a clinical education orientation meeting conducted by the Directors of Clinical Education (DCEs) several months before their initial clinical education experience. This initial clinical education experience occurred after the spring academic quarter (approximately 11 months into the professional program) and consisted of 3 weeks of full-time (40 hours/week) clinical education hands on experience at a single clinical education facility. Upon returning from this experience, the students met as a group with the DCEs for a “debriefing session.” During this session the students completed the PPTCVSA in approximately fifteen to twenty minutes. The students completed the PPTCVSA a second time at the very end of the professional program after completing 33 weeks of cumulative full-time clinical education experiences.

#### 4.3. Data analysis

A mixed design ANOVA was used to compare the total student professionalism scores and the individual

Core Value scores from the PPTCVSA after 3 weeks and 33 weeks of clinical education. This analysis was also used to investigate the effects of gender, age, and undergraduate area of study on growth in the total professionalism and individual Core Value scores over time. PASW [23] statistical Software Version 18 was used for statistical analysis. The students’ ages were re-coded into two groups, 20–22 years old, and those 23 years and above. These age groups appeared to reflect students who entered the program directly from their four year undergraduate programs and those students who delayed their graduate physical therapy education for one year or more. The independent variable gender was re-coded into the numerical variables 1 and 2 representing males and females respectively. Finally, the independent variable “area of study” was re-coded into four groups: kinesiology; movement science, physical education, and exercise science; biology, and health science; zoology, psychology, and biochemistry.

## 5. Results

Forty-three students completed the PPTCVSA after 3 weeks and again after 33 weeks of clinical education. One response was not included in the final analysis due to missing data. Total professionalism scores ranged from 196–318 with a mean of 246.67 following 3 weeks of clinical education. Total professionalism scores ranged from 221–334 with a mean of 297.88 at the second completion of the self-assessment, which occurred after a cumulative total of 33 weeks of clinical education. Individual Core Value score means can be found in Table 1. The Box’s test was not significant ( $p = 0.921$ ); therefore, the equality of variance and covariance assumption was met.

The mixed design ANOVA revealed that the difference between total scores of professionalism after 3 weeks and 33 weeks of clinical education was statistically significant,  $F(1,28) = 92.58$ ,  $p < 0.01$ . Student physical therapists recorded higher total professionalism scores following 33 weeks of clinical education when compared to their total scores after 3 weeks of clinical education (Table 1). There were no statistically significant interaction effects between gender and time, age and time, or area of undergraduate study and time. There was a main effect for gender as female students rated themselves higher when their total scores were compared to those of their male peers,  $F(1,28) = 5.925$ ,  $p < 0.05$  (Fig. 1 and Table 2).

The mixed design ANOVA also indicated that the differences between individual Core Value scores after 3 weeks and 33 weeks of clinical education were statistically significant in all categories. Main effects for gender were also statistically significant for the following Core Values: Accountability  $F(1,28) = 4.62, p < 0.05$ ; Excellence  $F(1,32) = 6.41, p < 0.05$ ; Integrity  $F(1,35) = 6.14, p < 0.05$ ; Professional Duty  $F(1,28) = 7.48, p < 0.05$ . In each of these Core Values, female students rated themselves higher than male students on both completions of the self-assessment tool. In addition, analysis of the scores from the Core Value, Integrity, revealed that age was also a main effect  $F(1,35) = 5.32, p < 0.05$  (Table 3). Older students (group 2) rated themselves higher on this Core Value than the younger students.

## 6. Conclusions

The purpose of this retrospective study was to (1) investigate whether or not clinical education impacts the development of professionalism in DPT students and (2) examine if the PPTCVSA could measure growth in students' self-assessment of professional behaviors over time. The results from this study indicate that clinical education does play a role in the teaching and learning of professional behaviors by students enrolled in a DPT program. Following 3 and 33 weeks of clinical education and based on self-assessment, DPT students showed improvement in each of the seven Core Values: accountability, altruism, compassion/caring, excellence, integrity, professional duty, and social responsibility.

The significant main effect of gender on the total professionalism scores as well as on the Core Value scores from accountability, excellence, integrity, and professional duty warrant closer investigation. Although the main effect of gender may be due to its unequal representation in our study (11 males, 32 females) and not a true effect, a myriad of literature exists addressing gender differences in many of the qualities underlying the construct professionalism especially communication and social interactions [9,13,15]. Therefore, further exploration into gender differences in self-assessment as well as gender differences in the development of professionalism are warranted.

Although clinical education appears to have contributed to the improvements in student professionalism scores, we cannot say for certain that clinical education, alone, prompted these changes. While not

on clinical rotations, students are exposed to a variety of experiences, both in and outside of the classroom, which could change their behavior/attitude of professionalism. These experiences may include class discussions on professional behavior and expectations, assigned readings, independent studies, and observations of academic faculty modeling the profession's Core Values. A recent study by Freeman and Rogers [11] found that allied health students had difficulty identifying deficiencies in their own professional behaviors in the clinical setting. Role playing activities in the academic setting as well as student's self-assessment of their professional behaviors in the clinical setting may increase their awareness of these critical attributes [11]. The integration of the Core Values into the updated Physical Therapist Clinical Performance Instrument for Students (CPI) has already begun to assist DCEs, clinical instructors, and students with the task of identifying and assessing professional behaviors in the clinical setting [5]. The CPI is the outcome assessment tool used by the majority of physical therapy educational programs in the United States to evaluate student clinical performance.

In our study, PPTCVSA detected growth in professionalism scores over time. Despite the development of this self-assessment tool by a panel of experts and its foundation in the constructs of the ABIM, minimal evidence exists to support the validity and reliability of this tool [4]. For this reason, research is needed to further verify the underlying constructs of the tool as well as to support its reliable and valid use for the self-assessment of professional behaviors. Recently, a study by Hayward and Blackmer [17] utilized the PPTCVSA to detect change in professional behaviors before and after exposing student physical therapists ( $N = 62$ ) to newly devised pedagogy in the affective domain. Researchers reported a statistically significant ( $p = 0.010$ ) improvement in students' awareness of Core Values following the intervention [17]. The utilization of the PPTCVSA in academic and clinical research further supports the need for investigation of the measurement characteristics of this tool.

The outcomes from our retrospective study will be the foundation for future research projects on the evaluation of professionalism in DPT students. We anticipate that our findings will facilitate discussion among physical therapy faculty and clinical educators on best practice regarding the development of professionalism. The results of this research will assist in the development of clinical education experiences to address specific areas yet undefined that may need greater expo-

sure for the development of holistic education on professionalism in physical therapy. As physical therapy educators, we recognize that developing professional behaviors can be complex for students and we further understand that socialization into the profession of physical therapy is influenced by many intrinsic as well as extrinsic factors.

Future studies are needed to evaluate the level of learning that takes place in the academic versus the clinical setting in the area of professional behavior development. Tsoumas [27] described reports from both students and faculty on several opportunities within the academic portion of physical therapy education programs for teaching and learning the many components of professionalism. Students need to engage in multiple types of learning experiences ranging from basic identification and practice to more complex integration. Having a better understanding and appreciation for how professional behaviors develop within and outside of professional healthcare programs will allow educators to become more effective in their teaching/learning settings.

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