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Promoting professional behavior in physical therapist students : use of standardized patient feedback

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Promoting Professional Behavior in Physical Therapist Students: Use of Standardized Patient
Feedback

Mary Anne Riopel, PT, DPT

A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy

Physical Therapy Program
College of Health Care Sciences
Nova Southeastern University
2015

College of Health Care Sciences
Department of Physical Therapy

We hereby certify that this dissertation, submitted by Mary Anne Riopel, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the dissertation requirement for the degree of Doctor of Philosophy in Physical Therapy.

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Abstract

Background: Entry-level physical therapist (PT) students receive feedback on professional behavior performance from academic and clinical faculty members. Literature is lacking on the impact that verbal feedback from standardized patients (SPs) may have on student learning of professional behavior in PT students. **Purpose:** The primary aim of this study was to examine the use of SP feedback as a strategy for professional behavior development. A secondary purpose was to describe the perspectives of PT students on the influence of SP feedback on clinical interactions and professional behavior during a full-time clinical experience.

Participants: A sample of convenience identified 13 PT students out of a potential 44 students in an entry-level DPT program prior to initiation of their first full-time clinical experience. Participants were excluded if they had prior experiences with SPs or had completed a full-time clinical experience.

Methods: A mixed methods design combined a randomized experimental design and qualitative phenomenological approach. Using 2 standardized patient scenarios, the experimental group received SP verbal feedback and written rubric assessment, whereas the comparison group received written rubric assessment alone. Outcome measures included the Modified Standardized Patient Satisfaction Questionnaire (MSPSQ), Professional Behaviors Assessment (PBA), and Professionalism Physical Therapy Core Values Assessment (PPTCVA).

This study utilized phenomenological inquiry to examine the perspectives of students receiving SP feedback using reflective journaling, focus groups, and a one-on-one interview. **Results:**

Quantitative data analysis included pre and post intervention comparisons of MSPSQ rubric assessment scores, PBA scores, and PPTCVA scores. No quantitative statistically significant differences were found on these outcome measures with the exception of the excellence domain, although trends for changes in performance were noted. Students' perspectives on receiving SP feedback after SP case scenarios identified 4 themes. The themes of seeing through the patient's eyes and hearing an objective truth were observed in both the verbal feedback and no verbal feedback groups. Differences existed in how feedback was received between the 2 groups. The theme of promotion of self-efficacy of professional behaviors was only perceived by the verbal feedback group. **Significance:** Limited research exists on the impact of SP verbal feedback with the use of a standardized rubric on PT student professional

behavior. This study provides preliminary evidence on the value of this educational strategy in development of professional behaviors in PT students. Research with a larger sample size may be indicated to study this educational method further.

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Chapter 1: Introduction

Introduction

This dissertation was developed to examine the impact of standardized patient (SP) feedback on physical therapist (PT) student professional behavior. This dissertation report includes a statement of the research problem and its relevance, the specific research questions and associated theories, a review of the literature, and a detailed description of the methodology. The results, analyses, delimitations and limitations of the quantitative and qualitative findings are examined in depth. The implications of these results and recommendations for future research are presented.

In this first chapter, the challenge of developing professional behavior in PT students will be discussed. Specific aims are delineated that address potential means of addressing this issue in physical therapy clinical settings. The relevance, significance, and need for this study is discussed in relation to PT student education, the profession of physical therapy, health care consumers, and the health care field in general. Specific research questions are included to clearly identify what was investigated. The questions are linked to current educational theory and practices in physical therapy. Multiple hypotheses are presented. Lastly, operational definitions of terminology are provided for the reader to clarify the elements being examined.

Statement of the Problem

Professionalism is a broad and complex construct including multiple components. In physical therapy, multiple documents attempt to define the domain of professionalism or

professional behavior in PTs including: the *American Physical Therapy Association (APTA) Code of Ethics for the Physical Therapist*, the *APTA Standards of Practice for Physical Therapy*, *Professionalism in Physical Therapy Core Values (PPTCV)*, and the *Professional Behaviors Abilities (PBA)*.¹⁻⁴ The PPTCV and PBA are core documents that describe the characteristics of professionalism for PTs.³ Both documents were designed as essential guides for both the assessment and development of professional behavior.

Early research published in 1995 identified the expected professional behaviors or generic abilities of entry-level clinicians as reported by clinical instructors (CIs) in the Model for Ability Based Assessment or Generic Abilities.⁵ Generic abilities were defined as “attributes, characteristics, or behaviors that are not explicitly part of a profession’s core of knowledge and technical skills”.⁵ Today this assessment is known as the Professional Behaviors Abilities (PBA). The PBA includes the following abilities: a 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.⁵ Initial research identified these professional behaviors as a means of both developing and evaluating these behaviors in PT students.

Over time, the definition of professional behavior or professionalism has grown within the field of physical therapy. In 2003, the APTA published the first standards of professionalism for practicing PTs in the PPTCV.⁶ These core values were designed to define the complex and dynamic construct of professionalism. As defined by the APTA Vision 2020 task force in 2007, PTs “demonstrate core values by aspiring to and wisely applying principles of altruism, excellence, caring, ethics, respect, communication, and accountability, and by working together

with other professionals to achieve optimal health and wellness in individuals and communities.”⁷ The PPTCV is still considered to be the gold standard used to describe characteristics of professional behavior for PTs. The Professionalism in Physical Therapy Core Values Assessment (PPTCVA) was developed as a means of assessment of the self-perceived frequencies of core values applied in practice.³

Research suggests that PT students who struggle in the clinical environment often display what are considered unprofessional behaviors.^{8,9} In research published in 1997, CIs were asked to rate the elements of behavior that differentiated “good” versus “bad” PT students.⁹ The CIs identified attributes including commitment to learning, communication, and general disposition as the key characteristics differentiating “good” and “bad” students.⁹ In a qualitative study by Hayes, CIs were asked to identify the behaviors that led them to question the competency of a PT student.⁸ Of these behaviors, 56.7% were considered to be lapses in the affective domain with 29.1% related to unprofessional behavior and 27.6% related to poor communication.⁸ Of particular interest, students with cognitive deficits in basic knowledge were found to be 4.75 times more likely to receive feedback from CIs as compared to those with unprofessional behavior or poor communication.⁸

Given there may be less feedback provided for affective behaviors as compared to cognitive deficits, the affective issues may be addressed in a less constructive and/or passive manner. If not adequately addressed, students may be unaware of their own lapses in behavior or may not gain an understanding of the ramifications of their actions on others. Without awareness of these deficits, students may continue to display unprofessional behavior in the clinic and the classroom with no opportunities for developing more appropriate behaviors.^{10,11}

Historically, academic faculty have defined and communicated the expectations of professional behavior for students in both the classroom and the clinic. These expectations are described in the *Normative Model of Physical Therapist Professional Education: Version 2004* and by the Commission on Accreditation in Physical Therapy Education (CAPTE).^{12,13} The *Normative Model* recommends the inclusion of professionalism and core values into the academic curriculum for entry-level PT students.¹² This model provides a framework for academic programs in planning curricula, including clinical education. Despite these recommendations, research suggests that academic faculty may lack confidence in evaluating professional behavior, are unclear about who is responsible for addressing lapses in behavior, and report a lack of support at the institutional level in remediation of such behaviors.^{11,14}

Other important documents that discuss the components of professional practice include CAPTE's *Evaluative Criteria for Accreditation of PT Programs* and the American Physical Therapy Association's *Minimum Required Skills of Physical Therapist Graduates at Entry-Level*.^{13,15} As the accrediting body of physical therapy programs in the United States, recommendations by CAPTE play an important role in shaping educational expectations. The *Evaluative Criteria* outlined by CAPTE include standards related to professional practice expectations including elements such as accountability, altruism, compassion, integrity, professional duty, and communication. Furthermore, the APTA Board of Directors has noted that an awareness of core values and professionalism is a minimum required skill for students to acquire during their education.¹⁵ Based on this expectation, student acquisition of these skills is 1 necessary element in preparing to become autonomous physical therapy practitioners in complex health care environments.

Different physical therapy academic institutions and faculty advocate varied methods of teaching professionalism in curricula. Professionalism is often taught implicitly by the modeling of appropriate behavior by academic faculty and CIs.¹⁴ More explicit methods of teaching professional behaviors have become more common in the recent literature and in educational practice including experiential learning, reflection, situated learning, and the use of feedback.¹⁶⁻¹⁹ As advocated by Goulet, explicit means of teaching professional behavior may be necessary to facilitate growth in students.²⁰

Experiential learning includes a variety of explicit learning methods, such as Kolb's Experiential Learning Cycle and Situated Cognition, based upon adult learning theory.^{21,22} These theories are similar as they emphasize learning in context within authentic environments.²² Another experiential learning theory advocated by Schön emphasizes the explicit practice of reflection by requiring students to consider the implications of their actions during and after activities.²³ Reflection is a process of critical thinking whereas an individual contemplates about or reacts to a particular action or problem.²² Another important learning tool is the utilization of feedback on performance. Feedback may be defined as an explicit unbiased communication to a learner to facilitate self-awareness.¹⁶ This may be considered a formative assessment as the goal is instructional in nature as compared to a summative assessment that is evaluative in nature for the purposes of grading. As discussed by Henry, feedback should be nonjudgmental with the intent of helping the individual improve by provision of concrete and structured information.¹⁶

Standardized patients (SPs) have also been used in varied medical fields, including physical therapy, to provide feedback on professional behavior during standardized case

scenarios that are experiential in nature.²⁴⁻²⁶ Literature is lacking on the impact that feedback from SPs may have on learning and development of professional behavior in PT students. Given that the APTA, CAPTE, and the *Normative Model* embrace professionalism for both PT students and practitioners, it is important to examine the impact of SP feedback on student professional behavior and the perspectives of students on how SP feedback may affect the learning of these behaviors during SP experiences.

Relevance and Significance

Physical Therapy as a Profession

A profession may be defined as an occupation requiring certain characteristics and powers that are defined by society.²⁷ The requirements of becoming a medical or health care profession have been discussed extensively in the sociological literature. Professionals are required to have certain levels of knowledge, education, autonomy, authority, responsibility, accountability, ethics, and identity in relation to the nature of the work involved.²⁷ Physical therapy clearly meets these requirements established by society and is thus regarded as a profession.

In the early history of physical therapy, PTs worked under the direction of a physician following specific prescriptive directives. It was not until the 1960s and 1970s that states began requiring licensure or certification for PTs as a means of protecting the public from adverse practice patterns.^{28,29} Licensure also recognized greater independence for practitioners. In the 1980s, the process of professionalization further accelerated in physical therapy as the concepts of direct access and autonomous practice were introduced to the profession.³⁰

When one considers physical therapy practice, a distinctive body of knowledge is necessary as evidenced by the progression of entry-level education to a doctoral level with expectations that practice will be based upon the best current evidence and patient values.³¹ This has resulted in the development of a specialized skill set that is unique to the profession. This knowledge base and the requisite skills create a level of authority for PT practitioners.³² As described by Sandstrom, autonomy is a privilege that is granted by society allowing a profession to control the nature of its work and to monitor the actions of its members.³² With this privilege, there are expectations that professionals will demonstrate accountability and responsibility and act altruistically in serving both patients and the greater community.³ Professionals are expected to self-regulate and develop codes of ethical behavior and standards of practice to protect the public and foster growth within any given profession.³³ If one considers all of these characteristics, each profession develops their own identity in the community and stakes claims to the specific scope of practice to the work they perform.³³

Vision 2020 was a seminal document created by the APTA that outlined the aspirations of physical therapy as a profession.³¹ The Vision described physical therapy as a doctoring profession in which PTs are considered the practitioners of choice for consumers with neuromusculoskeletal disorders.³¹ The statement envisioned PTs as autonomous practitioners who practice evidence based practice and adhere to standards of professionalism.³¹ Although Vision 2020 was replaced by a newly created vision by the APTA in 2013, the ideals remain as components of the professional identity of PTs. In fact, as described in the APTA's newly updated strategic plan, PTs are expected to "lead with professionalism, integrity, and honesty".³⁴ It should also be considered that the professional behaviors of practitioners may

influence the physical therapy profession, patients, other health care professionals, and the community.

The presence of behavior considered unprofessional may violate the professional identity of physical therapy and adversely impact relationships with patients, other health care providers, and society in general. Professional behavior plays an important positive role in patient satisfaction, adherence, and outcomes in the PT practice environment.³⁵⁻³⁷ In 1 study, it was suggested that positive professional behaviors may improve interprofessional relationships leading to improved patient outcomes and minimization of medical errors.³⁸ Although this study was completed at an organizational level with practicing clinicians, students are expected to learn how to effectively communicate and interrelate with other members of the health care team as they transition to entry-level practitioners. Without interprofessional collaboration, PT practitioners may contribute to an adverse climate in any organization and this may indirectly impact patient safety and outcomes. Furthermore, fostering strong interprofessional relationships may also improve the climate of the general healthcare work environment and job satisfaction.³⁸ As professionals with an established social contract with society, interprofessional skills are key elements of improving the patient experience and more importantly outcomes of care.

As defined by Swisher and Page, “professionalism is the internalized conceptualization of expected professional expectations, attributes, interactions, attitudes, values, and role behaviors in relation to individual patients and clients and society as a whole.”²⁷ This professional role is afforded to PTs by means of a social contract with patients and society.³⁹ The contract created by society has resulted in certain professional role expectations that a PT

must meet. Based on this professional role, there is an expectation that PT practitioners will emulate professional behaviors in all interactions. The characteristics or behaviors that define professionalism are the outward expressions of this professional role.

Professional behavior expectations vary among different stakeholders, including PT students, clinical faculty, patients, and academic faculty.^{9,37,40,41} The expectations of each of these groups differ, but many commonalities exist, such as demonstrating honesty, respectfulness, and caring behaviors, as well as good communication skills.^{9,37,42} However, each distinct group may place greater emphasis on different characteristics.

In addition to differences in expectations among stakeholders, other factors should be considered when examining PT student professional behavior. There may be differences among stakeholders regarding perceptions and expressions of professional behaviors that relate to emotional intelligence, learning styles of students, and the clinical environment itself.⁴³⁻⁴⁵

Emotional intelligence is a concept that relates to the ability of an individual to self-regulate emotions in an effective manner.⁴⁴ Self-awareness, self-motivation, empathy, and social competence are important components of emotional intelligence.⁴⁶ These constructs may be important factors in the development and expression of professional behaviors. A study of occupational therapy students suggested a correlation between emotional intelligence and performance in the clinic.⁴⁷ Research has shown conflicting correlations between emotional intelligence and professionalism in PT students and clinicians.^{48,49}

Learning styles may also have an indirect impact on development of professional behaviors. Learning styles are related to one's personality and preferred social interaction style as well as how one prefers to learn information.⁴⁵ Based on one's social interaction style, the

expression of professional behaviors may differ. For example, Kolb's learning styles inventory delineates 4 modes of learning that may be utilized by learners.²¹ Two examples of these modes are active experimentation and reflective observation. An individual who prefers active experimentation will favor learning by doing.²¹ On the other hand, an individual with a preference for reflective observation may be inclined to favor observation of a situation prior to acting.²¹ A learner who prefers reflective observation may not respond in a positive manner if opportunities for reflection are not provided and this may indirectly result in conflicts during interaction with others.

As discussed by Plack, immersion in the clinical environment is also critical for learning professional behavior skills.⁵⁰ Research has suggested that a positive clinical environment and CI role models play an important role in PT student education.⁵⁰ Plack has identified barriers to overall learning in the clinical environment including past negative experiences and a clinical community which lacks receptivity and responsiveness to student learning.⁵¹ In this same study, Plack identified supports to learning that include positive past experiences and a community supportive of clinical education.⁵¹

Wolff-Burke has suggested there is a hesitancy for CIs to address unprofessional student behaviors; there is variability in the quality of the feedback that is provided; and some CIs may not be ideal role models.¹¹ This highlights the need to find other methods to foster professional behaviors in students in a more standardized and effective manner within a positive clinical environment. Theoretically, in a controlled simulated environment, the provision of SP feedback may be more reliable and consistent, which may facilitate more honest and accurate feedback to students.

Teaching of Professional Behaviors

Despite recognition of the importance of professional behavior development, the literature is limited in how to best foster these behaviors in PT students, most notably in clinical interactions. Various methods of teaching professional behaviors are noted in the literature in the context of the classroom.⁵²⁻⁵⁴ Examples include reflective classroom activities, small group discussions, and role playing.^{42,55,56} In addition, evidence exists on the importance of fostering professional behavior in the clinic.^{18,50,57,58} Communities of practice (COP), integrated clinical experiences (ICE), and reflective activities in the clinic are 3 means of facilitating professional behavior in clinical environments.^{50,52,53,57} Another strategy for developing professional behavior is through the use of SPs who mimic standardized case scenarios and provide feedback to students on their performance.^{59,60} The use of a standardized written rubric is one method used by SPs to provide such feedback. In this study, a newly developed rubric, the Modified Standardized Patient Satisfaction Questionnaire (MSPSQ) was used to provide written feedback to participants on their professional behavior using a Likert-type scale.

In general, students report that direct feedback is one characteristic of exemplary CIs.⁶¹⁻⁶⁷ Based upon this perception, it may be inferred that feedback from SPs may also influence students' learning. Early physical therapy literature has suggested that PT students are highly satisfied with SP experiences and find SPs to be realistic.^{68,69} In studies by Lewis and Piper Kelly, students reported increased confidence in communication and a positive impact on learning of professional values after SP experiences.^{70,71}

Historical Overview of Standardized Patients

A SP is a simulated or actual patient who has been trained to depict a patient case scenario in a standardized manner.²⁵ The use of SPs in medical education was first introduced in 1964 by Barrows and Abrahamson.²⁵ The SPs used by Barrow and Abrahamson were carefully trained to portray standardized patient cases as a means of assessing medical students in a clinical realm. These assessments could be formative or summative in nature. Further research with medical students has suggested that SPs are realistic as compared to real patients, reliable in terms of reproducibility of patient cases, and effective at evaluating medical students in this context.^{25,72,73}

Standardized patients have been used effectively in some training programs for physicians, nurses, and other health care professionals in the domains of professional behavior and communication.⁷⁴⁻⁷⁷ In addition, the general healthcare field has utilized SPs extensively for assessment of diverse clinical competencies.²⁵ More recently, physical therapy educators have begun to incorporate SPs into their curricula for instructional and assessment purposes. In the physical therapy literature, student performance of clinical skills is the most common competency assessed by the use of SP scenarios.⁷⁸⁻⁸⁴ In these studies, SPs have generally been utilized for the development of interviewing and clinical skills in PT students.⁸⁵

In a survey completed in 2005, one-third of U.S. and Canadian physical therapy programs were using SPs in their programs with the primary emphasis on clinical competencies.⁸⁵ Of the programs not using SPs, the most common reported limiting factors were cost and time constraints.⁸⁵ Of the respondents, 60% reported that some form of SP feedback was provided to students during these encounters.⁸⁵ Direct faculty verbal or written

feedback after SP encounters was provided over 80% of the time.⁸⁵ Research on the use of SPs in physical therapy education for professional behavior development is emerging. In physical therapy research using SPs, feedback provided by faculty, SPs, peers, and self-assessment has suggested a positive impact on development of professional behavior.^{54,68-70,86-89}

Use of Standardized Patients in Professional Behavior Development

The rationale for the use of SPs as a method of developing professional behavior is based upon adult learning theories and psychological approaches to behavioral change. In particular, various models of experiential learning and psychological theory may be applied to the learning of professional behaviors using SPs.^{22,90} This may include incorporation of teaching methods based upon adult learning experiential theories such as Kolb's Experiential Learning Cycle, Schön's Reflective Practice, and Situated Cognition.²² Experiential learning emphasizes learning based upon experience and structures experiences to emphasize a combination of adult learning styles, learning within contextual environments, and reflection on experiences.⁹⁰

Theoretically, experiential learning, reflection, and learning in context may be further enhanced with the provision of direct and immediate feedback using SPs.^{16,91} This SP feedback may improve reflection, encourage student use of multiple modes of learning, and be specific to particular contexts.^{16,91} For example, a theoretical construct for facilitation of student learning of professional behaviors was set forth in a case study about a PT student struggling with professional behavior.¹⁸ It included feedback provided by faculty and CIs based upon adult learning theory as a basis for the development of professional behaviors.¹⁸ Positive changes in student behavior were noted with this approach.¹⁸ Although this finding was limited to a case study, it outlines a professional behavior development pedagogical approach.

In addition to learning theories, Bandura's Theory of Social Learning may also be applicable as it encourages changes in student self-efficacy in completing tasks.⁹⁰ The use of SP feedback may be a potential means of fostering growth of student self-efficacy in professional behavior through reinforcement of positive behaviors and suggestions for modifications of negative behaviors. With greater confidence in their capabilities, students may be more likely to apply these behaviors to practice.

Research Aims, Questions, and Hypotheses

The primary aim of this study was to compare 2 different modes for providing SP feedback as a strategy for professional behavior development: the use of verbal feedback in addition to a written rubric (MSPSQ) as compared to the use of a written rubric alone (MSPSQ). A secondary purpose was to describe the perspectives of both groups of PT students regarding how the provision of the different modes of feedback influenced their clinical interactions and professional behavior during a full-time clinical experience.

Prior research on the use of SPs for professional development has emphasized using a combination of peer assessments, faculty assessments, self-assessment, and/or SP feedback.⁶⁸⁻
⁷¹ In contrast to prior physical therapy research, this study emphasized SP feedback alone as a means of developing professional behaviors in students rather than feedback from faculty or peers, allowing assessment of SP feedback without faculty or peer bias. In general, SPs are trained on how to provide accurate and consistent feedback to students related to the student's performance, which may limit bias.⁹² The research design in this study included 2 one-to-one SP scenarios to determine the impact of SP feedback on individual student professional behavior.

The independent variable was type of SP feedback provided, consisting of verbal feedback with the use of the written MSPSQ rubric as compared to the use of the written MSPSQ rubric alone. The dependent variables included scores on the MSPSQ rubric after each case scenario and results of the PBA and PPTCVA at 3 time points: before and after the intervention and upon the completion of the third week of a full-time clinical experience. The research questions were as follows:

1. Are there group differences in SP satisfaction as rated by written MSPSQ scores in students receiving SP feedback using the MSPSQ alone versus the MSPSQ with verbal feedback provided between 2 case scenarios?
2. Is there a within subject difference in SP satisfaction as rated by written MSPSQ scores collected between 2 case scenarios (case 1 and case 2)?
3. Are there between group differences in PT student self-efficacy of professional behaviors measured by the PBA and PPTCVA pre-intervention and at 2 time points after the introduction of 2 modes of SP feedback: verbal feedback and MSPSQ combined as compared to MSPSQ written feedback alone?
4. Are there within subject differences in PT student self-efficacy of professional behaviors as measured by the PBA and PPTCVA pre-intervention and at 2 time points after the introduction of 2 modes of SP feedback: verbal feedback and MSPSQ combined as compared to MSPSQ written feedback alone?
5. How did the provision of SP feedback influence student clinical interactions and professional behavior during clinical experiences based on student perspectives?

Based upon these research questions, multiple hypotheses were generated as follows:

1. The first null hypothesis was that there will be no differences in the MSPSQ scores between the intervention and comparison groups. The alternate hypothesis was that there will be a difference in the MSPSQ scores from case 1 to case 2 between groups.

2. The second null hypothesis was that there will be no differences in the MSPSQ scores from case 1 to case 2 in each individual subject. The alternate hypothesis was that there will be a difference in the MSPSQ scores between cases.
3. The third null hypothesis stated that there will be no differences in the PBA scores within subjects at any time point. The alternate hypothesis stated that there will be differences within subjects in the PBA scores between baseline and post intervention measurements at any 2 points in time.
4. The fourth null hypothesis stated that there will be no differences in the PBA scores between groups at any time point. The alternate hypothesis stated that there will be differences in the PBA scores between groups between baseline and post intervention measurements at any 2 points in time.
5. The fifth null hypothesis stated that there will be no differences in the PPTCVA scores at any time point within subjects. The alternate hypothesis stated that there will be differences in the PPTCVA scores within subjects between baseline and post intervention measurements at any 2 points in time.
6. The sixth null hypothesis stated that there will be no differences in the PPTCVA scores at any time point between groups. The alternate hypothesis stated that there will be differences in the PPTCVA scores between groups between baseline and post intervention measurements at any 2 points in time.

Operational Definitions

Accountability – An APTA core value defined as active acceptance of the responsibility for the diverse roles, obligations, and actions of the PT including self-regulation and other behaviors that positively influence patient/client outcomes, the profession, and the health needs of society.³

Altruism – An APTA core value defined as the primary regard for or devotion to the interest of patients/clients, thus assuming the fiduciary responsibility of placing the needs of the patient/client ahead of the PT's self-interest.³

Caring – An APTA core value defined as the concern, empathy, and consideration for the needs and values of others.³

Case scenario – A simulated patient experience designed to challenge PT students using standardized patients who portray a structured case.

Clinical Experience – That aspect of the curriculum in which students’ learning occurs directly as a function of being immersed within physical therapy practice. These experiences comprise all of the formal and practical “real-life” learning experiences provided for students to apply classroom knowledge, skills, and professional behaviors in the clinical environment. These experiences include care of patients/clients across the lifespan and practice settings.⁹³

Commitment to Learning – A generic ability or professional behavior defined as the ability to self-assess, self-correct, and self-direct; to identify needs and sources of learning; and to continually seek new knowledge and understanding.⁵

Communication Skills - A generic ability or professional behavior defined as the ability to communicate effectively (i.e., speaking, body language, reading, writing, listening) for varied audiences and purposes.⁵

Compassion – An APTA core value defined as the desire to identify with or sense something of another’s experience; a precursor of caring.³

Critical Thinking - A generic ability or professional behavior defined as the ability to question logically; to identify, generate, and evaluate elements of a logical argument; to recognize and differentiate facts, illusions, assumptions, and hidden assumptions; and to distinguish the relevant from the irrelevant.⁵

Effective Use of Time and Resources - A generic ability or professional behavior defined as the ability to obtain the maximum benefit with a minimum investment of time and resources.⁵

Excellence – An APTA core value defined as physical therapy practice that consistently uses current knowledge and theory while understanding personal limits, integrates judgment and the patient/client perspective, challenges mediocrity, and works toward development of new knowledge.³

Interpersonal Skills - A generic ability or professional behavior defined as the ability to interact effectively with patients, families, colleagues, other health care professionals, and the community and to deal effectively with cultural and ethnic diversity issues.⁵

Integrity – An APTA core value defined as steadfast adherence to high ethical principles or professional standards; truthfulness, fairness, doing what you say you will do, and “speaking forth” about why you do what you do.³

Problem Solving – A generic ability or professional behavior defined as the ability to recognize and define problems, analyze data, develop and implement solutions, and evaluate.⁵

Professionalism - A generic ability or professional behavior defined as the ability to exhibit appropriate professional conduct and to represent the profession effectively.⁵

Professional duty – An APTA core value defined as the commitment to meeting one’s obligations to provide effective physical therapy services to individual patients/clients, to serve the profession, and to positively influence the health of society.³

Responsibility - A generic ability or professional behavior defined as the ability to fulfill commitments and to be accountable for actions and outcomes.⁵

Social Responsibility – An APTA core value defined as the promotion of a mutual trust between the profession and the larger public that necessitates responding to societal needs for health and wellness.³

Stress Management - A generic ability or professional behavior defined as the ability to identify sources of stress and to develop effective coping behaviors.⁵

Use of Constructive Feedback - A generic ability or professional behavior defined as the ability to identify sources of feedback and seek out feedback and to effectively use and provide feedback for improving personal interaction.⁵

Summary

As health care providers, PTs are considered professionals and thus are expected to display professional behavior perceived to be acceptable in interactions with all stakeholders. Well-developed professional skills are crucial affective skills that allow the profession to move forward and provide optimal patient care to communities served. The use of SP feedback as a development tool for PT students’ professional behaviors is not well-studied in the physical

therapy literature. This study was designed to assess the educational strategy of using SP feedback for professional behavior development in student PTs prior to full-time clinical experiences.

Chapter 2: Review of the Literature

Introduction

In this chapter, professional behavior expectations are discussed to describe the context of professional behavior in practice. A historical overview of educational theory and research literature on development of professional behavior is presented. This includes various learning theories and their application to PT practice as well as research literature specific to the topic of professional behavior development in students. A summary of the gaps in the literature surrounding the development of professional behavior is discussed.

Professional Behavior Expectations

As introduced previously, the *Normative Model* is a consensus statement developed by content experts including academicians and clinicians to describe contemporary practice.¹² In this model, experts have identified professional practice expectations that mirror the PPTCV from the points of view of both clinicians and academicians. The inclusion of professional practice dimensions defines expected student performance in these criteria in academia. Research involving senior physical therapy faculty suggests that academicians identify professional behavior characteristics that are consistent with the PPTCV as requirements for students in classroom environments.¹⁴ Physical therapy academicians have also identified clinical reasoning, integrity, and honesty as the most important professional behaviors in PT students.⁴²

In an ethnographic study of CI's perceptions of students, CIs defined professional maturity as demonstrating an eagerness to learn and an ability to relate to others.⁹⁴ In another

qualitative study by Wolff-Burke, CIs identified appropriate behaviors for PT students including accepting responsibility for learning, appropriate communication skills, and empathy.⁹⁵ Clinical instructors have also reported that effective interpersonal communication and professional demeanor are considered entry-level skills required for PT students.⁹⁶ These CIs defined professional demeanor in terms of characteristics such as accepting feedback without defensiveness, showing commitment to patients and the profession, and demonstrating initiative. In addition, it was reported by these CIs that the ability to build relationships with patients and other health care providers and self-confidence were required elements of effective interpersonal communication.

The most common inappropriate behaviors exhibited by student PTs identified by CIs included attitude, disinterest, poor communication, and being unprofessional.⁹⁵ As described by Wolff-Burke, these deficits in professional behavior may result from lack of action on the part of faculty, misunderstandings of what constitutes unprofessional behavior, and differences in the cultures of academic and clinical environments.¹¹

In a general study of allied health students, both CIs and students rated responsibility, professionalism, and communication skills as the most important professional attributes.⁹⁷ In a dissertation on student and CI attitudes toward professionalism, PT students reported oral communication, clinical reasoning, responsibility, compassion/caring, integrity, honesty, and accountability as the most important attributes of professional behavior.⁹⁸ The CIs identified the same attributes with the exception of honesty.⁹⁸ In another qualitative study, PT students identified professionalism, willingness to learn, display of strong interpersonal skills, and a positive attitude as required characteristics of students.⁹⁹ Finally, some research suggests that

the most common unprofessional behaviors identified by CIs and students are tardiness, verbal or nonverbal disrespect, and a lack of responsibility.⁹⁸

Physical therapy literature could not be identified in which patients directly rated PT students on professional behavior performance. Although specific patient ratings are lacking, general satisfaction with physiotherapy student assessment and treatment was found to be high in a study in Australia in inpatient clinical settings.¹⁰⁰ In a systematic review of patients' satisfaction with physical therapy care in general, caring behaviors and valuing patient autonomy were found to be the most important factors.³⁷ Although this research was conducted with practicing clinicians, there may be some carryover to student expectations.

In 1 study of medical students, a multisource feedback examination was completed including input from patients, peers, nurses, and physicians.⁴⁰ As compared to the other groups, the patients placed an emphasis on the confidence level and appearance of the students when rating them on performance.⁴⁰ In another study with medical students, instructors and peers observed student performance of 5 patient consultations.¹⁰¹ After the experiences, the peers, patients, and instructors provided written feedback to the students on their performance. The patients tended to place importance on student communication, good listening skills, and a thorough examination as positive factors in the experiences.¹⁰¹ It may be postulated that patients may expect similar behaviors in other health care professionals including PT students.

Overview of Teaching, Learning, and Behavioral Change Theories

Physical therapist students must complete both didactic and clinical components in physical therapy academic curricula. The differences between didactic and clinical content may require varied teaching and learning methods to effectively deliver content. In this section,

learning and psychological theories related to the development of professional behavior will be examined. This will include a discussion of the application of these theories to PT educational practice.

Bloom's Taxonomy of Teaching and Learning

In physical therapy, the development of educational objectives using Bloom's Taxonomy is one framework for assessing and organizing educational experiences.¹⁰² The affective, cognitive, and psychomotor domains were initially introduced as components of Bloom's teaching and learning taxonomy.^{102,103} In Bloom's seminal work, the 3 domains described the different characteristics of learning and how learning occurred on a continuum. Educational objectives may be framed based upon 2 factors in this taxonomy. First, one determines if the affective, cognitive, or psychomotor domain is most relevant for an objective. Second, one decides where on the continuum of learning that the objective should be focused. This taxonomy stresses the idea that teaching experiences should match the requisite skill on this continuum.

The cognitive domain was first defined to include a continuum starting with the development of knowledge followed by demonstration of the ability to comprehend, apply, analyze, synthesize, and evaluate this knowledge in practice.¹⁰² The cognitive domain has been relatively well defined in the literature, created based on a consensus of how students develop the ability to remember and understand facts about topics. This concept assumes that students learn these skills in different ways depending on the level of the hierarchy. For example, based on Bloom's original hierarchy, application of knowledge to practice assumes that students have been educated on basic facts.

In physical therapy, the psychomotor domain involves the learning and application of motor skills utilized in the patient/client management process. This psychomotor domain was developed in detail by several authors with the same premise that learning of psychomotor skills occurs on a continuum.¹⁰⁴⁻¹⁰⁶ Adequate psychomotor performance is required for successful interactions between students and their patients in clinical environments. Success depends on well-developed skills, such as critical thinking and reflection, during the performance of psychomotor tasks. For example, the task of completing a patient interview requires a coordination of the 3 learning domains in practice. Although the psychomotor domain is an important component of teaching and learning in physical therapy, this paper will concentrate on the affective domain and its relationship to the cognitive domain while the students perform a psychomotor skill.

The original authors who described the components of the affective domain were particularly challenged by the vague and less defined meaning of these educational behaviors.¹⁰³ The affective domain was developed to describe the values, attitudes, appreciation, and adjustment of students toward phenomena. Values may be considered the internal conceptions of feelings toward a particular topic whereas attitudes are the outward expression of these feelings.¹⁰³ These values may be dependent upon a variety of factors including the teachings of family members, peers, and the greater community. If one considers PT education, academic and clinical faculty are expected to act as role models as 1 means of teaching the values and attitudes of our profession.³⁹ This implicit method of modeling behavior may not teach students how to actually recognize professional lapses.¹⁰⁷ Bloom considered appreciation as the ability to recognize the presence of a phenomena and

adjustment as the means by which individuals vary their behavior as a result.¹⁰² If a student does not appreciate the presence of unprofessional behavior, it is not likely that they will adjust their behavior without prompting by another individual such as a faculty or clinical member.

The development of professional behavior requires a combination of cognitive awareness and affective responses to challenges. Students need a true cognitive understanding of what defines professional behavior and how to identify lapses in professional behavior prior to acting in any given situation.³⁹ Without this knowledge, students may inaccurately respond to a situation solely based on lack of awareness. The affective domain encompasses the behaviors and responses that result from challenges. Although a student may be aware that an action is unprofessional in a cognitive sense, this does not guarantee that they will chose the appropriate affective behavioral response.³⁹

One of the central tenets of the Bloom taxonomy is the process of internalization. Internalization describes the process of growth involving the development of internal control over one's behavior.¹⁰³ Learning processes must address both the knowing and doing of any particular activity or phenomenon.¹⁰⁸ Internalizing these cognitive and affective components may be considered essential, especially in the context of clinical practice environments. When students are first introduced to the clinical environment, the transition from the classroom to the clinic may be challenging based upon the need to apply and internalize higher levels of skill and knowledge of professional behavior on the learning continuum.⁵² Several adult learning theories describe the processes of learning that enable the progression from lower to higher levels on the continuum of Bloom's taxonomy and encourage internalization.²²

Experiential Adult Learning Theories

Physical therapist students are adult learners in the context of the doctoral level of training required. Students must have completed undergraduate coursework and received an undergraduate degree prior to entering any Doctor of Physical Therapy (DPT) program and often have other roles and responsibilities such as parenting or working.²² In addition, based upon their age, PT students present to the educational environment with a wide variety of life experiences.²²

Many adult learning theories aim to describe learning in relationship to life experiences, including Kolb's Experiential Learning Cycle, Schön's Reflective Practice, and Situated Cognition.²² These adult learning theories are experiential and share a common theme that learning is related to life experiences, but digress in how these experiences create learning opportunities. Without exposure to life experiences, a learner may grow at a slower rate or have difficulty applying concepts to different contexts.²² In this section, the philosophies of these 3 adult learning theories will be introduced.

Kolb's Experiential Learning Cycle

One of the more traditional models of experiential learning theory was created by Kolb in the 1980s.²¹ Based upon Kolb's research, there are several characteristics of learning that are foundational concepts for all types of experiential learning. First, learning may be considered a process that continually changes with experience.²¹ In fact, Kolb suggests that "all learning is relearning".²¹ Second, learning involves an integrative or holistic process of thinking, feeling, perceiving, and behaving toward all aspects of the environment.²¹ This process requires an interaction between the individual and the environment so that the person can impact the

environment and vice versa. Finally, learning occurs as a result of confrontation between 4 stages or modes of Kolb's model.

Kolb described the need for learners to develop abilities in 4 learning modes including concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE).²¹ There are 2 main dimensions in Kolb's learning modes that are in opposition. These include the abstract versus the concrete and active experimentation versus reflection. The abstract versus concrete dimension relates to how one experiences the world. In the abstract element, the learner emphasizes conceptualization of knowledge content through interpretation and symbolism.²¹ The concrete element of learning involves the more tangible side of learning where experiences are accepted at face value. In the other dimension, Kolb describes the process of transformation of knowledge by either active experimentation or reflection.²¹ In active experimentation, the learner interacts with the environment in an external manner by actively engaging in activities. On the other hand, reflection involves internal means of processing information.

As best described by Kolb, "[learners] must be able to involve themselves fully, openly, and without bias in new experiences (CE). They must be able to reflect on and observe their experiences from many perspectives (RO). They must be able to create concepts that integrate their observations into logically sound theories (AC), and they must be able to use these theories to make decisions and solve problems (AE)."²² Critics of Kolb's learning theory suggest that learners actually have preferred means of learning and do not attend to all 4 modes of learning during events.²²

Kolb's experiential learning theory resulted in the development of a learning style inventory to classify students into categories that describe their learning style. Research completed with PT students suggest students are generally able to fluidly move between the 4 modes of learning.¹⁰⁹ However, in general, PT students tend to prefer active experimentation when learning.¹⁰⁹ This supports the premise behind clinical experiences where students are afforded opportunities to actively practice and apply their clinical and professional behavior skills. The use of SPs may allow PT students to use active experimentation in a safe, simulated environment and facilitate learning of professional behavior.¹¹⁰ Theoretically, the use of SPs may also be another avenue that allows students to actively practice using Kolb's 4 modes of learning in a simulated environment. This aligns with Kolb's theory that effective learning requires all modes of learning.²¹

Schön's Reflective Practice

As described in Schön's Reflective Practice Theory, reflective practice is learning that occurs as a result of reflection-on-action or reflection-in-action.^{23,91} These reflective practices are often described as being transformational to the learner and thus have an impact on future responses to experiences. Reflection-on-action occurs when one reflects on an activity after it has occurred and is based upon conscious contemplation.²² This reflective practice may impact future responses to similar events. For example, if a PT student is exposed to a situation in which an adverse patient event occurs, the student may consciously think about what may have been done differently to change the course of this event. Based upon this reflection, the student may choose to respond in a different manner to future patients in similar situations based on his/her individual response. Reflection-in-action is dynamic and encourages reflection

about activities as they are actually occurring.²² This type of learning occurs more fluidly in expert practitioners who are able to alter their responses to situations as they happen.¹¹¹ As discussed by Jensen, expert practitioners have dynamic interactions with patients and actively reflect on these experiences.¹¹¹ Schön describes how practitioners create a “reflective contract” with their clients/patients as they reflect in action.²³ This requires practitioners to accept that their actions or behaviors may have different meanings to their patients/clients than anticipated.²³ Therefore, there must be continual practitioner reflection on behaviors and outcomes in all interactions with modifications occurring in real time.

Learning in a clinical environment requires students to apply both forms of reflection and students may require greater time when learning novel skills to allow time for reflection. This may be particularly important in cases where professional behaviors are challenged and reflection-in-action is required. For example, if a patient directly reports dissatisfaction to a student, the student needs to respond promptly to remediate the behavior. The use of SPs may allow students to practice professional behaviors in a structured manner that allows appropriate time for reflection using SP verbal feedback. In addition, the use of tools such as the PPTCVA can guide students as they internalize SP feedback.

Situated Cognition

Situated cognition, or learning, is another method of cultivating learning by exposing students to authentic experiences and contexts, such as clinical practice environments.¹⁰⁸ Situated cognition has been described as an effective means of merging the skill sets involved in knowing and doing.³⁹ Situated cognition differs from reflective practice as it emphasizes learning in practice or in context.²² The context of situations is more important in this model of

learning as compared to changes within an individual related to self-reflection. As discussed by Cruess, situated learning allows the explicit teaching of material in a cognitive sense while encouraging experiential learning in authentic contexts.³⁹ This allows a learner to combine affective and cognitive domains by applying content to solve dilemmas in true environments. In practice, situated cognition aims to teach within diverse environments with varying contexts. By varying contexts, it is postulated that individuals learn to generalize and transfer skills to similar or new situations.¹¹²

In traditional situated learning, authentic activities allow students to be immersed into an environment and enculturated.¹⁹ The structure of this so-called cognitive apprenticeship will vary depending on the educational level of the student. In practice, it emphasizes thinking during tasks with reflection after the activity.¹¹³ Examples of the steps of this process include situated modeling, scaffolding, coaching, and fading.¹⁹ Situated modeling occurs when a teacher or master models a task while explicitly explaining the rationale behind their actions.²² Scaffolding and coaching occur when a student attempts a task and is provided support while performing it.²² Finally, the amount of support and feedback is faded and eventually withdrawn as the student succeeds.²²

Situated learning involves creating complex and/or ambiguous conditions that mimic real world interactions.¹¹⁴ The aim is to facilitate the understanding of abstract concepts by making them more concrete.¹¹² Situated learning is evident in the clinic when one observes interactions between PT students and their CIs, especially with novice students. In the physical therapy literature, a consensus statement was developed describing a “maturity continuum” as students progress in their education.¹¹⁵ This continuum is based on the idea that students

progress from dependent to interdependent levels of learning during PT educational activities.

In this qualitative work, four key factors were identified to assist in student learning including leading by example, explicit teaching, reflection, and encouraging a wider context of practice.¹¹⁵

If one applies these themes to educational practice, novice students may be more dependent on leading by example and explicit teaching.¹¹⁵ As students become more independent, reflection becomes more important.¹¹⁵ Finally, as students progress to a level of interdependence, they are better able to appreciate the ambiguity of complex environments.¹¹⁵

When one applies this maturity continuum to situated cognition, PT students may rely on CI modeling of behaviors with explicit explanations of why certain actions were chosen when they are novices. As student confidence and skill improve, the provision of feedback about task performance is provided after the task. If one considers the premise of feedback provided by SPs, this may provide a level of support to the student while learning tasks during simulated situations in early learning experiences and allows reflection. Once students become more proficient, the amount of support or immediate feedback can then be faded allowing students opportunities to appreciate ambiguity.

Bandura's Psychological Theory of Social Change

In addition to the adult learning theories discussed above, Bandura's Theory of Social Change has been defined in the cognitive psychology literature to describe how individuals change behavior.¹¹⁶ As defined by Bandura, human behavior is a "continuous reciprocal interaction between cognitive, behavioral, and environmental determinants."¹¹⁶ Bandura introduced the concept of perceived self-efficacy and its impact on behavioral change.

Perceived self-efficacy may be defined as "personal judgments of one's capabilities to organize

and execute courses of action to attain desired goals.”⁹⁰ In this model, an individual may have an awareness of a need to change behavior but may lack confidence in their abilities to do so. Self-confidence relates to trust in one’s ability or self-view, whereas self-efficacy is a faith that an individual has in their own capabilities to reach an intended outcome.¹¹⁷ Individuals with higher self-efficacy have been shown to exert greater effort, show higher motivation, display perseverance in actions, and have a strong drive to face challenges.¹¹⁷

According to Bandura’s Social Change Theory, there are 4 types of experiences that may impact one’s perceived self-efficacy including enactive and vicarious experiences, verbal persuasion, and physiological responses. Enactive experiences are a result of outcomes of a student’s personal experience.¹¹⁸ These are considered the most powerful experiences to impact self-efficacy as a student directly experiences the activity. In theory, an interaction with a patient or a SP allows students to have these personal one-on-one experiences. Vicarious experiences occur when a student observes the behavior of another individual, such as a CI, and compares their performance to that individual.¹¹⁸ When one considers the clinical experiences of PT students, novice students may rely on this modeling of CI behavior as a learning tool in the clinic.

Verbal persuasion occurs when the performance of an activity is only verbally described.¹¹⁸ This may occur in a classroom environment or in the clinic and emphasizes the cognitive consideration of particular cases and facts. Lastly, physiological reactions such as fatigue or stress may result in lower perceived self-efficacy. For example, a student may interpret such physiological responses to be a sign that they are not capable of performing a particular task.¹¹⁸

Research suggests that an emphasis on experiences involving verbal persuasion or physiological experiences are the least effective means of promoting a positive learning environment.⁹⁰ This highlights the importance of providing opportunities emphasizing enactive and vicarious experiences. The utilization of SPs in the education of PT students may be a valid enactive means of facilitating student perceived self-efficacy or confidence in their professional behavior. Clinical simulation encounters with nursing students suggest that these enactive experiences are beneficial to improving self-efficacy.¹¹⁹

In a recent systematic review on professional confidence in occupational therapy students, the authors suggest that self-efficacy or confidence is influenced by a variety of factors in a dynamic fashion.¹²⁰ In this study, self-efficacy was theoretically impacted by affective, cognitive, and reflective components of experiences.¹²⁰ The use of SP experiences allows students to use all of these components in an enactive manner which may impact professional behavior.

Application of Theory to Physical Therapy Educational Practices

The development of professional behaviors in PT students incorporates experiential adult learning theories and Bandura's Social Change Theory. This is especially applicable in the transition from structured classroom experiences to the dynamic clinical environment. It is the combination of these experiential learning theories and perceived self-efficacy that may be critical for student success in the clinic. Examples of the application of these theories to PT student education include COP, ICE, community practice resource groups (CPRG), reflective practice, and methods to address behavior not considered to be professional.

Communities of Practice

Situated cognitive learning through the use of a COP is one method of experiential learning used for teaching professionalism.^{50,121} Communities of practice are designed as learning experiences in which multiple sources of feedback are utilized in case-based learning. Communities of practice encourage “360 degree” feedback provided by peers, patients, faculty, and through self-assessment.^{50,121} Communities of practice allow students to practice activities in an environment that promotes shared learning between all of these individuals.¹²¹

In a qualitative study by Plack, 13 PT students were interviewed about how they developed communication, interpersonal skills, and professional behaviors in a COP format.⁵⁰ In this grounded theory study, a COP was developed which incorporated access to the clinic and all of its challenges including strategies to make personal meaning of the clinical experience.⁵⁰ Two themes from this research suggest that students relate learning from experience in the clinical environment and access to multiple role models as important factors in the development of these behaviors.⁵⁰ These results appear to support the use of COP in the learning of professional behaviors. Research by Skoien is also supportive of COP.¹²¹ This research suggests that the openness and inclusion of students in professional environments may result in improvements in perceived self-efficacy.¹²¹ In the Skoien study, 10 study participants were interviewed using a phenomenological approach on their perspectives of the use of COP.¹²¹ Several themes emerged including feeling welcome and included, working with fellow students, and the patient as a teacher.¹²¹ This suggests that effective learning includes patient and peer feedback when using the COP model. Theoretically, this patient and peer feedback may enhance student reflection about performance.

Integrated Clinical Experiences

Another application of situated learning may be the use of ICE. As described by Weddle, ICE involves student involvement in the clinic from the outset of a physical therapy academic program.⁵² In programs using ICE, students are exposed to the clinic frequently throughout the program to encourage integration of didactic content into clinical practice.⁵² In Weddle's study, PT students participated in direct clinic activities for 75 hours during the first year of the curriculum.⁵² The ICE aimed to establish a context for the students as they experienced the clinical environment in relation to their classroom activities.⁵²

Integrated clinical experiences may also align with Kolb's theory since students must combine all modes of learning as they apply learned principles from the classroom to the clinic where students have opportunities for active experimentation, concrete experience, and reflective observation. These clinical experiences may be concrete or more abstract in scope depending on the context. Students may then abstractly conceptualize information learned in the clinic during classroom activities afterwards. Overall, the ICE may allow students to smoothly transition between all modes of learning.¹²²

Community Practice Resource Groups

Another method of providing authentic experiences for PT students was developed by the physical therapy program at the University of Indianapolis in 1999.⁷¹ A CPRG was developed that consisted of members of the general community with chronic conditions.⁷¹ These individuals volunteered to act as patients in classroom simulated experiences based upon their particular condition. It is unclear if these individuals were trained or coached in any manner prior to these experiences. A survey analysis of the perceptions of student learning was

completed by 9 faculty and 63 PT students. Both faculty and students rated the CPRG experiences as contributing highly to the learning of professional student behaviors.⁷¹ These experiences align closely with situated cognition learning as students practice in context and with Kolb's theory as they had to use all 4 modes when interacting with these patients. The CPRG model is similar to the use of SPs in teaching as students are immersed into a simulated clinical experience. It differs from SP experiences as the cases used in the CPRG model are not standardized and the patients are not trained in how to act or provide feedback if requested.

Reflective Practice

Another common method of learning in PT students is self-reflective activities in the clinical environment.^{57,123,124} As an important component of physical therapy practice, reflection allows PT students to identify their subjective responses to situations and self-assess their performance of cognitive or affective behaviors. In a study on critical reflection, PT students completed a journal writing exercise about their clinical experiences.⁵⁷ They were provided with clear expectations about the content of the journaling and faculty feedback was provided.⁵⁷ The feedback provided was general in nature but included attention to professional behaviors. The effectiveness of journaling on student behaviors was not specifically addressed. However, students reported that the combination of journaling with faculty feedback was a helpful adjunct to their overall learning.⁵⁷

Another structured framework for reflection by PT students was identified by Donaghy in 2007.¹²³ This framework required a short reflective writing exercise on a patient case followed by faculty feedback and a second more extensive writing exercise. The second writing exercise encouraged students to reflect on the cognitive and affective processes that they used

in their particular patient case while on a clinical experience. Focus groups with PT students resulted in themes such as the importance of the development of personal insight and how analysis of self-behavior could be used to inform future behavior.¹²³ It should be noted that these reflective exercises appear to align with Schön's reflection-on-action.

Research on reflection in PT students has also emphasized the use of the PPTCVA. In a retrospective study by Anderson, 43 PT students completed the PPTCVA as a self-assessment tool after a 3 week first clinical experience and again after 33 weeks of a terminal clinical experience.¹²⁴ Results demonstrated that students reported a statistically significant improvement in all categories of the PPTCVA between the first and terminal clinical experience.¹²⁴ The authors concluded that clinical education is one means of improving professionalism in PT students with the stipulation that other confounding variables exist in education that impact behavior. It should be noted that the PPTCVA is a self-assessment and it is unclear if faculty members or CIs concurred with the student self-assessments.

As originally published by May in 1995, the Model for Ability Based Assessment or Generic Abilities was designed to be a means of self-assessment of student abilities in professional behaviors.⁵ Research completed by Masin suggested that this model can be a useful adjunct for professional behavior development in the classroom.¹⁷ However, research is limited in the use of the model in the context of clinical education for reflective purposes.

Other Methods Addressing Professional Behavior Change

A framework for use of the generic abilities in the clinic was outlined by Wolff-Burke in 2007.¹¹ The framework was a decision making model to be utilized for addressing deficits in professional behavior.¹¹ The first steps in the decision making included identifying the

behavioral concern, investigating who was involved, and determining the situational facts.¹¹

Next, the severity of the concern was identified and options for remediating the behavior were developed.¹¹ The solution was implemented based upon the information gathered and the effectiveness was evaluated after the actions were applied.¹¹ Although this model may be a useful method for the remediation of behavior not identified as professional, it does not address the development of professional behavior as a means of preventing adverse behaviors a priori.

The application of Bandura's ideas surrounding perceived self-efficacy may also be an important component of behavioral change, especially when behavior is not considered professional. In a case study presented by Foord-May, academic faculty and CIs provided clear expectations and feedback to a PT student with professional behavior concerns.¹⁸ This included a combination of verbal persuasion by the faculty, vicarious experiences in the clinic by CI role modeling, and activities aimed at improving student self-efficacy. The facilitation process was found to be successful in this particular case. The results of this study need to be interpreted with caution based upon the case study design. Furthermore, this study examined unprofessional behaviors as compared to professional behavior development.

Physical Therapy Student Learning Preferences

When one examines student and CI preferences for learning in the clinical environment, the provision of direct, immediate feedback has been shown to be 1 of the preferred methods of teaching and learning in the clinical environment in the United States and abroad.⁶¹⁻⁶⁷ This includes learning of clinical skills, development of clinical knowledge, and fostering of positive

professional behaviors. In this section, the relevance and application of feedback in the clinical environment are discussed.

In survey research in Africa, PT students rated immediate verbal feedback and individual discussions with a faculty member to be most beneficial for learning in the clinical environment.⁶² These students reported that reflective activities and peer assessment were the least favored means of learning.⁶² On the other hand, in a European study of PT students, students reported that peer and instructor feedback and self-assessment were all important factors in early clinical education experiences.⁶⁷ It should be noted that the European study occurred during the first and second semesters of the PT programs whereas the African study occurred at a later time in the curriculum. This may be relevant based upon potential differences in learning styles and levels of perceived self-efficacy between novice and more experienced students. Furthermore, cultural influences should be considered when comparing these studies.

Research in Australia also suggested that the most successful teaching and learning technique reported by students in the clinical environment was immediate feedback from clinical faculty including both the positive and negative aspects of performance.⁶⁴ In this same study, evaluations by patients, fellow students, and self-assessment were not highly regarded.⁶⁴ It is unclear how feedback was provided to the PT students by the patients or peers.

In another Australian study, qualitative interviews were completed with PT students and clinical educators about their perceived teaching and learning preferences in clinical experiences.⁶¹ Two themes emerged from the student interviews including dynamic learning and the development of self-confidence. Dynamic learning was described by the students as a

process whereby they became more active learners as they progressed through their clinical experiences.⁶¹ This aligns well with Kolb's theory especially with the mode of active experimentation. The development of self-confidence or self-efficacy was also an important characteristic that grew during these clinical experiences.⁶¹ Positive behavioral attributes were facilitated by several CI teaching methods including immediate feedback, time for reflection, and modeling of effective patient interactions.⁶¹ The provision of these experiential learning opportunities with patients was inclusive of suggestions about performance that assisted students in direct patient care and was graduated in terms of level of supervision as a means of fading of support. It should be noted that these international studies should be interpreted with caution based on cultural influences, socioeconomic differences, and curricular diversity in physical therapy programs outside of the United States.

In research completed in the United States, PT students reported a preference for direct feedback in clinical environments.^{63,99} Constructive feedback and individual discussion about direct patient activities were preferred in the clinic by students in a study by Jarski.⁶³ In this same study, students reported the least productive means of learning was through the use of intimidating feedback, such as feedback in the presence of patients.⁶³ This survey research with 139 PT student participants found feedback as contributing most highly to learning experiences in the clinic. Rindfleisch also reported on the positive impact of CI feedback for students in the clinical environment using a qualitative approach with 9 third year PT students.⁹⁹ Positive teaching behaviors included the ability to give and receive feedback, understanding student learning styles, and creating a safe environment for students to ask questions.⁹⁹ In this

particular study, the students reported that constructive, timely reciprocal feedback between the CI and the student was most helpful.⁹⁹

In addition to the research on student preferences, research by Frye provides guidance on how to provide effective and useful feedback.¹²⁵ As described by Frye, it is important to differentiate between formative and summative assessments as summative feedback is designed for evaluation purposes.¹²⁵ The provision of true formative feedback is an instructional method that has value as long as certain criteria are met. Frye discusses 4 dimensions that should be addressed when providing any type of feedback.¹²⁵ First, the feedback should be learner-centered.¹²⁵ Second, there should be an interaction between the student and the assessor with two-way communication.¹²⁵ Third, the assessor needs to ensure that the power differential between student and teacher is minimized.¹²⁵ Finally, the depth of feedback may need to be tailored to the particular scenario.¹²⁵ In some cases, it may be more appropriate to only provide feedback specific to particular cases presented. On the other hand, the feedback may need to be more generalizable to allow application to similar cases. All of these factors may need to be considered when utilizing SP feedback in simulated cases.

Based upon the research, it appears that feedback from CIs assists students in learning while in the clinical environment. In these cited studies, feedback in relation to direct patient care and clinical activities appears to be the most prevalent student behavior addressed. As suggested by studies with medical students and other allied health professionals, the use of SPs may be another viable way to provide feedback to PT students in a constructive and effective manner.^{74-76,126-129}

Review of the Literature on Standardized Patients

When one examines health care literature, the use of SPs has been more prevalent for the assessment of clinical skills/knowledge as compared to the teaching and learning of professional behaviors and communication. In a 10 year literature review from 1996-2005, 69 studies were identified in health care fields that specifically addressed the development of professional behaviors via the utilization of SPs.⁷⁴ Formative assessment or feedback was provided by the SPs in approximately 50% of these encounters.⁷⁴ Of the 69 studies, 55% specifically addressed student communication but it is unclear in which manner the SP feedback was provided.⁷⁴

In the majority of studies, self-reported satisfaction with the learning experience, confidence level, and knowledge/skill gains were the primary outcome measures. The studies were mixed in terms of the effectiveness of the professional behavior and communication training.⁷⁴ Most studies had weak research methodologies, used samples of convenience, and did not randomize subjects.⁷⁴ Furthermore, the generalizability of the results is limited due to variability in how SPs were trained, if feedback was provided by the SP, and the types of cases portrayed by the SPs.⁷⁴ In this section, the literature on the use of SPs in medical, nursing, and physical therapy education will be examined.

Use of Standardized Patients in Nursing and Medical Education

In recent health care literature, there are conflicting results on the effectiveness of SPs for enhancing professional behaviors.^{60,75,126-130} As a whole, studies have concentrated on communication skills as a component of professional behavior. These included studies that compare the use of SPs to role play (RP), provided communication training, emphasized

communication in didactic course content, and used real patients to teach communication skills.

The use of RP was studied in a randomized posttest study completed with first year nursing students that compared the effects of communication training in a clinical experience after the completion of RP versus SP modules.⁷⁵ The outcome measures included a self-efficacy scale, patient ratings, and clinical supervisor ratings for the 2 groups. The intervention group received oral feedback from an SP after practicing a standardized patient scenario. The control group used RP with fellow students to practice the same patient scenario. The intervention group was then tested with a standardized Objective Structured Clinical Examination (OSCE) and rated by an SP and a faculty rater. The control group took a written examination related to communication skills after the RP activity. The participants were students at different campuses of the same institution. The control and intervention groups were grouped based upon which campus they attended.

All subjects then participated in a 6 week clinical experience and were rated by patients and their clinical supervisors. There were no differences between the study groups on the level of perceived self-efficacy or patient satisfaction ratings after the intervention.⁷⁵ There was a statistically significant difference in the clinical supervisor ratings of performance favoring the intervention group.⁷⁵ This may be postulated to align with differences in expectations between students, patients, and educators between campuses. It should be noted that social threats to validity cannot be discounted with this study design and blinding did not occur. In addition, the manner of evaluation of performance differed between the groups which may impact the

internal validity of the study. Therefore, one cannot discount the possibility of a type II error and a true difference may have existed in student self-efficacy and patient satisfaction.

Mullan investigated nursing student self-efficacy scores, satisfaction ratings, and course grades after a 2 week nursing communication course that consisted of lectures, RP, and SP interactions.¹²⁶ A sub-sample of 74 subjects completed self-efficacy ratings before and after the course. All 209 subjects completed a post-course questionnaire on their satisfaction level with the course and underwent a summative graded SP case scenario after the course. Self-efficacy scores were higher in the sub-sample after the course and on average most subjects were satisfied with the course.¹²⁶ The self-efficacy, satisfaction, and formal graded SP assessment scores were then examined with correlational analysis in the sub-sample. Those individuals who were highly satisfied with the course were more likely to rate their self-efficacy higher.¹²⁶ There were no correlations noted between the self-efficacy and satisfaction levels with the formal graded assessments.¹²⁶ The results of this study need to be interpreted with caution as the study was only correlational in nature and examined only a sub-sample of the participants. A true experimental design would be necessary to compare differences between students who completed the communication course to those of a control group.

In a pilot study in 2013, Webster used an assignment for improving nursing students' therapeutic communication and patient-centered care with 15 subjects.¹²⁷ The authors describe the inclusion of SPs in the coursework of nursing students with faculty led SP verbal feedback incorporated into the SP case scenarios. Preliminary findings in a debriefing suggest that this verbal feedback was considered more beneficial than written feedback by these nursing students.¹²⁷ The discussion between the students and the SPs provided a valuable learning

experience on therapeutic communication allowing students to see the patient perspective.¹²⁷

One should consider that the SP feedback was directed by faculty which may have influenced the content of the feedback.

In medical students, a randomized control trial was completed that compared the use of SPs, peer RP, or didactic course content alone in a communication training class.¹²⁸ In this class, all 103 fifth year medical students were exposed to 3 seminars on communication issues. A self-efficacy scale was completed after all 3 practice sessions and then repeated after the study intervention. For the SP group, the subjects were exposed to 9 SP case scenarios involving communication with a parent of a pediatric patient and received 360 degree formative feedback from the SP, a faculty member, and peer. The SP group consisted of 1 pair of subjects who alternated with 1 student carrying out the history and examination while the other subject observed and vice versa in the same scenario. For the RP group, there were 3 subjects who took turns playing the role of the physician, the parent, and an observer. Both the physician and observer subjects provided feedback to the subject acting as a physician. The control group only participated in the communication issues training seminars.

After the interventions were completed, subjects in this randomized trial participated in an OSCE to assess communication abilities. Communication skill was rated by trained psychologists during the OSCE. The OSCE examined 4 domains including understanding the patient perspective, providing a structured approach in the interaction, relationship building, and the exploration of problems.¹²⁸ These domains are described in the *Calgary-Cambridge Guides* which include analysis of communication skill.¹³¹ There were statistically significant improvements in the SP and RP groups as compared to the controls with higher overall OSCE

scores.¹²⁸ In addition, there were differences between the 2 intervention groups and the control group in each individual domain except building relationships.¹²⁸

Post hoc analysis revealed a significant difference between the RP and SP groups on the domain of understanding the patient perspective with higher scores for the RP group.¹²⁸ The authors suggested that this may be related to students being exposed to the patient and clinician points of view in the RP activity. When examining self-efficacy, there was a statistically significant difference between the control group and the 2 intervention (SP and RP) groups with higher scores in the intervention groups.¹²⁸ There was no significant difference between the SP and the RP groups.¹²⁸ The lack of a difference between RP and SP groups may be related to the sample as the subjects were more experienced as compared to the subjects in other studies.

Another study by Gilliland found that medical students displayed no difference on examination scores or OSCE scores when trained with actual patients as compared to with SPs on physical examination and history taking skills.¹³⁰ The lack of statistically significant differences between groups suggests that students may be successfully trained in these skills with the use of SPs. Qualitative research with medical students has examined student perceptions of the use of real patients as compared to SPs.⁷⁶ Students reported that working with real patients was best for learning clinical skills. However, even though students reported the SP experience to be less authentic, they preferred SP experiences early in the curriculum with the focus on learning communication skills and preferred the constructive feedback provided during the SP experience.⁷⁶

In the Netherlands, medical students were evaluated using a combination of the Common Ground Instrument (CGI), a standardized checklist scoring rubric, and written

narrative feedback by faculty raters and SPs during an OSCE.¹²⁹ The CGI is a generic validated tool to rate communication performance in medical students during OSCEs.¹³² The checklist scoring rubric was developed by the authors and included specific assessment items representing key constructs of communication for each specific SP case scenario. There was no significant advantage to utilizing the specific scoring checklists and the information was found to be redundant with the CGI.¹²⁹ Subjects were highly satisfied with the inclusion of narrative feedback.¹²⁹ The authors concluded that the use of the CGI with narrative feedback may be the best method of instruction and evaluation of communication abilities in formative assessments.¹²⁹

Finally, in a study using SPs with medical students, students received SP face-to-face feedback after only a proportion of SP encounters during their curriculum.⁶⁰ In all cases, the SPs completed a written rubric assessment scoring examination, history, or communication/interpersonal skills. In comparing cases with and without SP verbal feedback, the rubric assessment scores remained stable with no statistically significant differences noted.⁶⁰ This refutes the author's original hypothesis that scores on the rubric would be more lenient in cases where verbal SP feedback was provided.⁶⁰ Furthermore, it suggests that the objectiveness of scoring does not appear to be influenced when using verbal feedback.

Use of Standardized Patients in Physical Therapy Education

In the physical therapy literature, student performance of clinical skills, such as history taking and performing examinations, is the most common competency assessed using SP scenarios.⁷⁸⁻⁸⁴ Limited research exists on instructional methods for fostering professional behavior and communication skills. One of the first studies to address using SPs in the

development of interpersonal and communication skills in PT students was published by Ladyshefsky in 1996.⁶⁸ In this study, students were videotaped completing an interview of a SP. These videotapes were viewed by student peers and instructors with both rating the students on their communication abilities. Overall, the peer assessments were significantly higher than the instructor ratings.⁶⁸

In a 2005 case report about the use of SPs with challenging ethical scenarios, student reflection on self-efficacy and peer assessment was emphasized.⁸⁶ This study noted increases in student self-efficacy scores after the completion of 2 SP case scenarios.⁸⁶ In addition, the use of peer assessment was found to benefit student learning from these experiences.⁸⁶ As the study emphasized SP ethical case scenarios, professional behaviors may have been challenged.

In 2006, a pilot study by Hayward described the development of a novel method of using SPs in a COP.⁸⁷ In this COP, 4 to 5 students were grouped to develop an assessment plan with faculty guidance on how to approach an assigned SP case. One single student was designated to assess the SP and received “360 degree feedback” from peers, faculty, self-assessment, and the SP. In subsequent research in 2010, Hayward used the same model and incorporated the PPTCVA as a self-assessment tool before and after a SP scenario, as well as after an 8 week clinical experience.⁵⁴ The authors found a statistically significant increase in PPTCVA scores after the SP scenario in all core values.⁵⁴ However, after the clinical experience, there was a statistically significant decrease of scores in altruism and social responsibility values.⁵⁴ The remaining core values including accountability, compassion, excellence, integrity, and professional duty also decreased after the clinical experience, but these changes were not statistically significant.⁵⁴ The authors suggested that the change in PPTCVA scores after the

clinical experience may reflect that students were more realistic in their self-assessments after gaining an understanding of true clinical practice.⁵⁴

In 2008, a study was undertaken in the United Kingdom to examine self-efficacy of interpersonal skills and communication of PT students before and after a SP experience.⁷⁰ Pairs of PT students examined a SP with 1 student completing the interview and 1 student completing the physical examination. Individual feedback was shared between peers and the SPs after the completion of the case scenario. Overall, the perceived self-efficacy level of students increased after the experience with improved self-confidence exhibited in their ability to interact with patients.⁷⁰

More recently, Blackstock and Watson completed randomized control trials examining 2 SP models, 1 using acute care and 1 using musculoskeletal cases.^{88,89} In the models used, the students either completed SP experiences for 1 week prior to a 3 week clinical experience or completed interspersed SP experiences with clinical time for 2 weeks followed by a 2 week clinical experience.^{88,89} In both studies, the groups were compared to control groups that participated in a traditional clinical experience without exposure to SPs. Both studies reported students obtained comparable aggregate competency scores between the control and experimental groups.^{88,89} In Blackstock's study, there was a statistically significant difference in the professional behavior category favoring the group with the interspersed SP model versus the control group.⁸⁹ There was no statistically significant difference in the professional behavior standard between the two experimental groups in Watson's study.⁸⁸

Gaps in the Literature

Based upon the identified research, there are multiple gaps in the physical therapy literature regarding the use of SPs for instructional purposes in the affective domain. These gaps include determination of the best instructional SP model for development of professional behaviors, inclusion of experiences that highlight the multiple domains of professional behavior, determination of the most effective type of SP feedback about professional behavior, and examination of student viewpoints on the use of SPs for education on professional behavior.

The first gap is determining the best instructional method for the facilitation and development of professional behaviors using SPs. When assessing clinical competencies, a significant proportion of research in medical and nursing education has used a 1:1 model with a single student being evaluated on performance during 1 SP case.^{78,80-82,84} Models utilized for incorporating SPs into physical therapy curricula for educational purposes are more variable ranging from a 1 student: 1 SP model to 4 students: 1 SP model.^{54,68,69,71,87-89} Furthermore, the number of SP cases in all identified studies has ranged from a single case to 28 cases over the course of a curriculum.^{54,68,69,71,87-89} When examining professional behaviors, one cannot discount the possibility that students may act differently when assessing SPs if they are alone or in a group. In the psychology literature, one can differentiate between the emotional and social self-regulation of individuals who learn on their own versus the dynamics of group learning.¹³³ It is postulated that group learning requires shared regulation of motivation, emotions, and cognition.¹³³ In this way, the learning experience of affective behaviors may certainly differ if models other than a 1:1 model are used.

Another gap in the literature is that a majority of studies in the health care arena and in physical therapy educational research address a limited view of professional behaviors. In general, literature has addressed communication skills with scarce data on other domains of professional behaviors or has examined professional behavior as a whole without consideration of the individual domains. Based upon the current available literature, it is unclear if the use of SPs for instruction in professional behaviors may be more appropriate for certain domains as compared to others.

Also, one must consider that the type of feedback provided by SPs has been variable in the literature. Methods of feedback have included SP written formative assessments, SP verbal feedback, and the use of multisource feedback using multiple raters. There is limited evidence that addresses whether written versus verbal feedback may impact professional behavior performance and perceived self-efficacy differently. Furthermore, it is unknown if individual feedback from SPs combined with self-assessment may be an effective instructional method.

Research into student perceptions about SP feedback has been limited to general satisfaction ratings with minimal qualitative research into the viewpoints and perspectives of students. In particular, it is unknown what perceptions students may have when faced with direct, immediate verbal feedback from SPs about their professional behavior performance. Furthermore, it is unknown how this verbal feedback may impact self-perceived performance in a clinical environment after the use of SP scenarios that challenge professional behavior. Student perceptions are important in determining the actual influence that this training may have on clinical performance from the student point of view.

Two primary challenges in prior research about professional behavior assessment and development include differing expectations between individuals and the subjectivity of feedback about the affective domain. First, in general, professional behavior expectations are variable between individual stakeholders.^{9,37,41,42,94-96,98,99} It may be argued that patient expectations are especially important in health care. These expectations will vary based upon factors such as prior patient health care experiences, personal biases, and the current health care status of each individual. It may be ideal to obtain direct feedback from patients about student performance. This has been found to be problematic in the medical literature if patients lack training in providing effective feedback.¹³⁴ The ability to obtain candid and straightforward feedback from untrained patients about students may be difficult. Based upon this challenge, the use of SPs may be a viable means of capturing the patient perspective.

The second primary barrier is the inherent subjectivity in the provision of feedback with regard to the affective domain. No method of professional development or assessment has been identified to be superior and this may be related to individual biases. The ability to control for such bias needs to be carefully addressed in any study design. The use of standardized patient scenarios portrayed by SPs may allow a level of control over this subjective nature of feedback. Using standardized rubrics may also be an effective means of limiting subjectivity. There are a multitude of standardized rubrics used for the assessment of professionalism in the general medical field.^{135,136} A detailed standardized rubric to assess professionalism in PT students could not be identified. In this study, a standardized patient assessment rubric was adapted from an established tool used with medical students to minimize subjectivity.

Summary

The literature leads us to consider use of direct, immediate verbal feedback from SPs as a viable instructional method for the development of professional behaviors in PT students. The use of SPs for development of professional behaviors has been limited in the PT literature. An understanding of the student perspective, measures of perceived self-efficacy, and SP assessments of student performance may assist in early research of this experiential and reflective educational strategy.

CHAPTER 3: Methodology

Introduction

In this chapter, a detailed description of the research methodology of this dissertation will be presented. This study included both qualitative and quantitative methods to examine the presented research questions. As a mixed methods design, the research design combined an experimental design with a phenomenological approach. First, the pilot study will be described for testing the reliability of the MSPSQ for the primary study. The MSPSQ is a modified version of the Standardized Patient Satisfaction Questionnaire (SPSQ) adapted for use with PT students.¹³⁷ The reliability of the MSPSQ was determined prior to data collection for the primary study.

The quantitative and qualitative methods will then be discussed in extensive detail. The sampling will be discussed including the subject recruitment process, the representativeness of the sample, and the sampling method. In the quantitative methods section, the randomization process and research methods are delineated. The reliability and validity of the outcome measurement tools are clearly identified. The quantitative outcome measures included the MSPSQ, PBA, and PPTCVA. (Appendices 1-3)^{3,5,137}

The qualitative phenomenological processes will be described including focus groups, written reflective journaling, and a semi-structured one-on-one interview. This will include attention to the specific methods utilized for data collection and analysis. The processes for the transformation of the data, coding techniques, and abstracting of the qualitative data will be clearly described.

Research Methods

Pilot Study

Physical therapist students receive feedback on professional behavior performance in the clinical environment from both academic and clinical faculty members. A current method of providing feedback to PT students is through the use of standardized patients (SPs) using standardized rubrics to measure clinical performance and professional behaviors.¹³⁷⁻¹³⁹ Multiple rubrics exist in the medical and health care literature to address professional behaviors with few validated studies noted.^{135,138,140} Research on the accuracy of SP rubric assessments of medical students suggest good to very good reliability in completing rubrics regarding performance of the history, examination, and patient education components of standardized case scenarios.¹⁴¹ A literature search of MEDLINE and CINAHL did not identify a validated instrument for use by SPs to provide feedback on communication and professional behaviors to PT students. The development of a reliable feedback instrument was necessary to allow reproducible and accurate feedback to PT students by SPs.

The Standardized Patient Satisfaction Questionnaire (SPSQ) is a standardized patient rubric or checklist using a Likert-type scale to rate communication and professional behavior of medical students.¹³⁷ This tool has been validated with demonstrated internal consistency for use by SPs in the assessment of medical students and for self-assessment of medical residents but has not been utilized with other health care professionals.^{137,139} The SPSQ was modified by the primary investigator for use in providing feedback on communication and professional behaviors to PT students.

The MSPSQ was developed by the primary investigator and face validity was assessed by content experts including 1 SP educator, 1 Academic Coordinator of Clinical Education, 1 CI, and 2 PT academic faculty. This instrument was developed to be utilized by SPs when portraying standardized patient scenarios as part of a DPT curriculum. The MSPSQ consists of 14 items that are rated by the SP on a Likert-type scale ranging from 1 to 5 with 1 being poor and 5 being excellent. The scores for each item are added to obtain an aggregate score for the scale. Based upon the good face validity of the MSPSQ, the various domains of professional behavior and communication appear to be represented in the rubric. The inter-rater reliability of the MSPSQ was then tested with SPs prior to use in the primary study.

The Institutional Review Boards (IRBs) of Temple University and Nova Southeastern University approved this pilot study prior to the recruitment of participants. Physical therapist student participants were recruited by means of a verbal announcement on the first day of class in a Clinical Simulation elective at Temple University by an individual other than the primary investigator. The Clinical Simulation course in the Temple DPT Curriculum is offered to third year students in their ninth semester who have completed 2 full-time clinical experiences. Standardized patient participants were recruited by an expert SP educator at Temple University.

For those students and SPs who wished to participate, the details of the study were explained including any potential risks and benefits for participation in this study. All participants had the opportunity to ask questions throughout this process, were required to sign an informed consent form prior to participation, and could withdraw at any time. The informed consent forms for the pilot study are available in Appendix 4. The sample size of SP

actors was 3 and the sample size of SP reviewers was 8. Therefore, each student participant was rated by 9 SPs including the original actor who portrayed the case scenario and 8 SP reviewers.

As the prior Director of Clinical Education at Temple University, the primary investigator was responsible for advising PT students during their studies as well as being involved in teaching activities with the students. This researcher was not a faculty member teaching the Clinical Simulation elective and did not have any responsibility for grading in this class to minimize coercion in participant recruitment.

In the pilot study, all 15 PT students who were enrolled in a Clinical Simulation elective were videotaped while performing a medical interview as a component of the normal classroom educational procedures. This study took place in the Clinical Simulation lab at Temple University. The SP actors were trained in the use of the MSPSQ by an expert SP educator and primary researcher using role play and discussion prior to the PT student medical history for 2 hours prior to use. After the PT students completed the medical interview, the 3 SP actors completed the MSPSQ. The MSPSQ results were shared with each individual PT student in the Clinical Simulation elective after the completion of the interview.

In the normal classroom practice of the Clinical Simulation elective, the PT students are videotaped for educational purposes and these videotapes are viewed by faculty and clinical simulation lab staff. These videotapes were viewed by the investigators and the participating SP reviewers for reliability purposes only. The risk of disclosure was minimally heightened with the viewing of the videotapes by the investigators and SPs. However, the material that was

audiotaped and videotaped was not sensitive in nature. Students did not receive a course grade on the SP interaction, with feedback provided by the SPs solely for educational purposes.

Eight SP reviewers were then trained on the use of the MSPSQ by the primary investigator and SP educator prior to use of the instrument. The training of the 8 SPs was completed with the SPs in 2 groups. The SP groups were trained using role play and discussion for 2 hours prior to use in the same manner as the SP actors. The 8 SP reviewers viewed the 15 videotapes as a group and each SP individually rated the participant's professional behavior using the MSPSQ. The rubric scores were compared between SPs for the aggregate scores and each individual item of the MSPSQ. The data analysis included the calculation of Kendall's Coefficient of Concordance and intraclass correlation coefficients (ICC) to compare the scoring responses for the MSPSQ for the total aggregate rubric score and for each individual item on the rubric.

Quantitative Research Design

In the primary study's quantitative component, an experimental design was used with randomization of participants into an experimental group ("verbal feedback group") or comparison group ("no verbal feedback group"). The experimental group received SP verbal feedback and the results of the MSPSQ rubric after 2 standardized case scenarios. The comparison group received results from the MSPSQ rubric alone after each of the same 2 standardized patient cases. The comparison group did not receive verbal feedback from the SP.

Sampling

As a sample of convenience, student participants were recruited by the primary investigator from a second year DPT class of 44 PT students in January of 2015 from a private

university in the Northeast and 13 students volunteered to participate. Although the sample of PT students may potentially have been more representative if probability sampling was utilized, differences between the curricula in physical therapy programs may have created too much variability in the sample. The primary investigator did not have any prior established relationship with students in the recruitment pool. Inclusion criteria required participants to be PT students who had no prior experiences with SPs and had not yet completed a full-time clinical experience. Participants were excluded if they had prior experiences with SPs or had completed a full-time clinical experience. No participants that volunteered were excluded based on these criteria.

In this DPT program, students are introduced to clinical practice by means of clinical observation in a student run pro bono clinic with ability to practice basic skills beginning in the first semester. The students attend clinic 1-2 times per month for 4 hours during the first and second semesters. In the third semester, the students participate in a part-time ICE at the pro bono clinic including 4 hours of clinical time per week to allow further practice of basic skills. The students are introduced to the concepts of professional behavior early in the curriculum with a class during the third semester that introduces the Generic Abilities and PPTCVA. The students do not have interaction with SPs at any time point during the curriculum. The first full-time clinical experience occurs in the seventh semester of the curriculum, and prior to the initiation of this study. The curriculum course descriptions may be found in Appendix 5.

The IRBs from the involved institutions reviewed and approved this study prior to the onset of data collection. The SPs were recruited from a pool of SPs in the Philadelphia region known by an expert SP educator from the Clinical Simulation Lab of Temple University.

For those students and SPs who wished to participate, the details and purpose of the study were explained including any potential risks and benefits for participation. All student and SP participants had the opportunity to ask questions throughout this process and signed an informed consent form prior to participation. (Appendix 6) All participants were informed they could withdraw from the study at any time.

All subjects were randomly assigned to either the experimental or comparison group by individually selecting a random number from an envelope prior to the standardized cases for identification purposes. The allocation into groups was concealed to the primary investigator. The use of random assignment minimized personal judgment or bias and assisted in maintaining equivalence between the groups.¹⁴²

Quantitative Research Methods

Baseline data was collected after randomization including demographic data, APTA membership status, a history of receiving prior academic awards/scholarships, PBA scores, and PPTCVA scores pre-intervention. Additional outcome measures included the PBA and PPTCVA measured at 2 additional time points during the study: immediately after the SP encounters, and at the end of week 3 of a subsequent 8 to 10 week clinical experience.

Two standardized case scenarios were developed by the primary investigator with the assistance of a content expert in the area of clinical simulation and an experienced SP educator. The SP educator has worked in the field of clinical simulation training SPs for over 20 years. The content expert has extensive knowledge in the use of clinical simulation and 12 years of experience in PT student clinical education. The cases were developed to portray individuals with musculoskeletal disorders presenting to an outpatient clinical setting. Each case was

created including SP responses that were designed to challenge the student participant's professional behaviors. (Appendices 7, 8) The 2 standardized cases were given in random order for all student participants.

In case A, the SP portrayed a patient with ankle dysfunction related to an ankle sprain. The SP presented the first challenge in case A following approximately 5 minutes of interview by saying to the participant "I am sorry but I feel like I keep answering the same questions. The doctor already asked me this." The second challenge was initiated by the SP following approximately 10 minutes of interview as follows: "My friend told me that physical therapy can make it hurt worse. What exactly are you going to do?" Case B involved the SP portrayal of a patient with lower extremity pain referred from the lumbar spine. In this case, the challenges were introduced by the SPs following approximately 5 minutes and 10 minutes of the interview respectively. The first challenge was as follows: "I don't understand why you are asking these questions about my back. I have pain in my legs." The second challenge by the SP was as follows: "I am sorry but this is taking a long time. The doctor told me that I just needed some massage from the physical therapist."

The study flow is depicted in Appendix 9. In both groups, the participants were instructed to complete a standardized medical history interview of a SP within a 15-20 minute time frame and were provided 10 minutes to review the case prior to the interview. Students in the experimental and comparison groups completed cases A and B back to back. Each student participant was asked to complete a medical history and patient education on the aims of physical therapy for each SP case. A general form for documenting the medical history was provided to each student participant. (Appendix 10) Student participants were instructed to

refrain from completing a physical examination during the encounters. The student instructions for the cases are included in Appendix 11. The SP case scenarios were completed in private rooms within a physical therapy clinic located on the campus of the private institution in the Northeast region. Administrators from the institution granted permission to use these facilities for this purpose. (Appendix 12) No patients or clinic staff were present at the clinic during the time of the testing.

In the experimental group, the participants interviewed 2 trained SPs, receiving both verbal and written feedback from the SP via the MSPSQ after each of the 2 case scenarios. In the comparison group, the participants interviewed 2 SPs and received only written feedback from the SP using the MSPSQ after each respective case scenario. The case scenarios between groups were identical. The participants completed the standardized cases with different SPs for each case and completed the cases in random order. Upon completion of the 2 case scenarios, each participant completed a journal reflection, PBA, and PPTCVA.

Explicit training by an expert SP educator was provided for the SPs 1 week prior to the interviews. Training for the SPs on the case scenarios was completed by the expert SP educator and included role playing of the cases with feedback on their performance provided by the educator. Training of the SPs occurred with the SPs as a group to improve the consistency of instruction. All SPs were previously trained on the use of the MSPSQ for 2 hours during the pilot study.

The SPs were educated on how to reliably and accurately portray the standardized cases to the participants and how to provide unbiased verbal feedback to participants in the experimental group. Guidelines for provision of verbal feedback are listed in Appendix 13.

These guidelines are consistent with frame of reference (FOR) training that is described in the psychological literature for performance appraisal.¹⁴¹ Frame of reference training emphasizes the premise that behavior is multi-dimensional and aims to provide instruction in how to define performance dimensions by use of practice and feedback on rater performance.¹⁴³ It is postulated that FOR training assists raters in understanding how to rate behaviors more objectively by encouraging accurate conceptualization of behaviors and improving recall of observed behaviors.¹⁴⁴ In 2 meta-analyses, frame of reference training has been shown to be an accurate means of assessing performance of behavioral domains.^{143,144} This SP rater training took 2 hours and each SP was responsible for portraying only 1 of the 2 cases. Only SPs that were unknown to the study participants were utilized. Two SPs were trained on case A and 2 SPs were trained to portray case B.

Four days after the completion of the 2 SP case scenarios, individual focus groups were conducted with the experimental and comparison groups. These focus groups will be described in the qualitative research design section. Within 6 to 12 weeks after the 2 case scenarios, the participants began their first full-time clinical experience. At the end of week 1 of the clinical experience, a journal reflection was completed by all participants. At the end of week 3 of the clinical experience, all participants completed the PBA and PPTCVA for the third and final time.

Quantitative Data Analysis

Descriptive and baseline data was collected and analyzed for homogeneity between groups prior to the intervention. The baseline data included demographic data, PBA scores, and PPTCVA scores pre-intervention. Demographic data included age, gender, grade point average (GPA), APTA membership status, history of prior awards/scholarships, undergraduate degree,

and ethnicity. Statistical analysis of the homogeneity of groups included Mann Whitney U for ordinal data and independent t-tests for ratio data. Analyses of within subject and between group differences were completed for the MSPSQ, PBA, and PPTCVA outcome measures. The MSPSQ was compared between the 2 case scenarios using Wilcoxon Signed Ranks Test and Mann Whitney U. The PBA and PPTCVA were examined at 3 time points using a Friedman's ANOVA and Kruskal-Wallis ANOVA. The PBA and PPTCVA data was tested with intention to treat and completer analyses. The PBA and PPTCVA data were also analyzed with and without data from 2 participants who were assigned to an international clinical experience. Prior to the onset of the study, it was unknown to the investigator that these students would be completing international clinical experiences. Based upon cultural and socioeconomic differences between countries, this may have impacted the results and was examined for this reason.

Reliability and Validity of Outcome Measures

The face validity and inter-rater reliability of the MSPSQ was tested in the pilot study prior to the primary study data collection. The MSPSQ demonstrated good inter-rater reliability when all items were combined to create an aggregate score. In addition to the MSPSQ, the 2 groups of participants completed the PPTCVA and the PBA, before and after the 2 case scenarios and at the end of week 3 of their clinical experience. These outcome instruments are purported to measure self-perceived efficacy in professional behavior.^{3,5,10,54,145} The PPTCVA and the PBA responses were collected using a password protected computer program and concealed participant numbers. All outcome measures with the exception of the MSPSQ were collected electronically using Qualtrics© survey software.¹⁴⁶ The MSPSQ was completed in written form by the SP participants.

The original Generic Abilities Assessment, now known as the PBA, includes an ordinal level rating scale that ranks self-efficacy in 10 domains of professional behavior.⁵ The original assessment was developed using a Delphi technique based upon consensus of a group of CIs.⁵ Evaluative behavioral criteria for the 10 domains of professional behavior were developed and operationally defined by the authors to assist in scoring.⁵ The ranked professional behaviors include 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. These professional behaviors were previously defined in the operational definitions of Chapter 1 of this dissertation.

In the original generic ability study, a scale was utilized by students and CIs to rate each individual domain on a scale from beginning to developing to advanced levels.⁵ In unpublished research in 2009, this scale was further expanded to describe 4 primary levels of increasingly complex performance as students improved their professional behaviors with ratings from beginner to developing to entry-level and to post entry-level.⁴ In that 2009 research, a small work group revised the list of professional behaviors and description of behavioral criteria as reported in the original Generic Abilities Assessment and re-named the tool as the PBA.⁴ The identical professional behaviors were identified in that unpublished research. The rating scale for the PBA has the anchors for beginner, intermediate, entry-level, and post entry-level. These anchors have clear operational definitions to improve the consistency of responses.

The construct validity of the original Generic Abilities Assessment was examined by Jette et al.¹⁰ The authors completed a factor analysis of 152 specific professional behaviors performed by students in the clinic. The findings suggested that the behaviors identified as

most important by students were consistent with those of the Generic Abilities Assessment.¹⁰ With factor analysis, the instrument did show some redundancy with items with the majority of variance explained by 2 of the generic abilities inclusive of professionalism and responsibility.¹⁰ This does suggest some overlap between the domains as may be expected when measuring a complex phenomenon. Although the validity of the PBA has not been formally studied, the identical professional behaviors as established in the Generic Abilities are included suggesting similar content validity.

The intrarater reliability and responsiveness to change of the PBA has not been established. It is important to note that the reliability of self-assessment measures of professional behavior may be difficult to quantify due the complexity of the construct of professional behavior, potential instability of such measurements over time, and the variability of the domains between contexts.¹⁴⁷ Based on these difficulties, the use of multiple self-assessment measures was indicated for the purposes of this study.

In 2002, a group of experts in physical therapy practice, education, and research developed the PPTCV, which is a description of core values or professional behaviors that are inherent components of physical therapy practice.³ In addition, the authors developed a self-assessment tool including operationalized sample indicators to be used by physical therapy clinicians to rate themselves on these behaviors.³ The PPTCVA includes a 5 point Likert-type scale that the participants use to self-assess the frequency of the application of each professional core value.³ The rating scale frequencies include 1=never; 2=rarely; 3=occasionally; 4=frequently; and 5=always.

Although the PPTCVA is not formally validated, it has been used as a self-assessment tool in prior physical therapy literature and is used in educational practice.^{54,124,145} In a recent descriptive study by Guenther, a survey of practicing PTs was completed to determine their utilization of the core values in practice.¹⁴⁵ This research suggests that all of the core values, with the exception of social responsibility, are well-integrated into clinical practice.¹⁴⁵ Minimal integration of social responsibility in practice was related to the fact that clinicians rarely reported participation in pro bono activities for underserved individuals. Although this was a descriptive study, the findings suggest that the content of the core values are frequently used by practicing clinicians and may be valid indicators of professional behavior in practice. As an important measure of professional behaviors, it may be inferred that the PPTCVA is also useful for measuring student's perceived self-efficacy in these behaviors. The PPTCVA has not been formally examined for the ability to measure change over time in a reliable manner.

The PPTCVA contains 68 ordinal scale items grouped under general categories or domains. These domains include accountability, altruism, excellence, caring/compassion, social responsibility, integrity, and professional duty. In this study, aggregate scores were calculated by adding the individual item scores in each domain. This approach was utilized to avoid potential overestimation of treatment effect from multiple comparisons of the 68 individual items. This approach is in line with the intent of the scale in categorizing similar items into broad domains and has been utilized in prior research.⁵⁴

Qualitative Research Design

This study utilized phenomenological inquiry methodology to answer the qualitative inquiry: "How does the provision of SP feedback influence student clinical interactions and

professional behavior from the student perspective?” Phenomenology aims to interpret the narratives provided by participants in relation to their experiences to identify what is unique about those meanings.¹⁴⁸ This interpretation may lead to themes that describe participant perspectives on the influence of patient feedback on their learning of professional behaviors. This study sought to understand and interpret the experience from the students’ point of view, and therefore, phenomenological inquiry methodology was indicated.

Qualitative Research Methods

Qualitative research methods included written journal reflections, focus groups, and a one-on-one semi-structured student participant interview. All participants completed a journal reflection at the end of the intervention day following completion of both standardized patient cases and at the end of the first week of their clinical experience. The participants were encouraged to freely write their reflections with stimulus questions as follows for each time point:

Post SP Interaction:

Reflect on your experience receiving feedback from SPs after the interview sessions.

Consider the following in your reflection:

1. How did this feedback make you feel?
2. How did this feedback impact your beliefs, attitudes, and behaviors about interacting with patients?

End of Week 1 Clinical Experience

1. How did the SP feedback impact your professional behaviors during your clinical experience? How did the SP feedback impact your interactions with patients during the clinical experience?

2. How did the SP feedback impact your actual performance with patients in the clinic?
What helped your performance? What hindered your performance?
3. What benefit do you think was provided by the SP experience? What would you like to see done differently in the use of SPs?

Focus groups were conducted by a qualitative researcher not associated with the study and an observer 4 days after the completion of the intervention and prior to the full-time clinical experience. The focus groups were completed with both the verbal feedback (“experimental”) and no verbal feedback (“comparison”) groups separately. The guiding questions for the focus groups were as follows:

1. Tell me about your experience receiving feedback from the SPs after your standardized patient interviews. What did you think was positive? What did you think could be done differently?
2. Tell me how you think the SP feedback might make a difference in your clinical experience.
3. How did the SP feedback compare to feedback you may have received during your part-time clinical experiences in the PT program? What did you gain from the SP feedback?
4. How might the feedback change your beliefs, attitudes and/or behaviors about interacting with patients?

Additional questions were asked during the focus groups for clarification of responses.

Focus groups were audio taped and later transcribed verbatim by a research assistant.

Participant confidentiality was upheld by use of the random number identifiers assigned at the onset of the study. Significant statements were identified in each participant’s journal reflections and the transcripts of the focus groups.

One-on-One Interview

A one-on-one semi-structured interview was completed with 1 subject at the end of week 3 of the clinical experience to assist in triangulation and saturation of data. The one-on-one interview was only completed with 1 participant from the verbal feedback group and no participants from the no verbal feedback group were interviewed. A request for individual interviews was sent to the sample and this participant volunteered to complete the interview. This interview was carried out by the primary investigator using the following guiding questions:

1. Tell me how the SP case scenarios may have influenced your interactions with patients on your clinical experience.
2. Tell me how the feedback you received from your CI may have influenced your professional behavior and communication during your clinical experience.
3. Tell me about similarities between feedback provided by the SPs as compared to your CI. What differences were there between feedback provided by the SPs and that provided by your CI?
4. What were your overall impressions about the SP feedback experiences?

The interview was audio taped and later transcribed verbatim by a research assistant.

Themes or significant statements were identified in the one-on-one interview and triangulated with the focus group and journal reflection data. An outside expert qualitative researcher reviewed the coded transcript of the one-on-one interview and associated themes to confirm agreement with the primary investigator. Another expert qualitative researcher involved with this dissertation also reviewed the themes for the focus group data and journal reflections.

The qualitative data analysis process began once the data collection was initiated with the grouping of similar data into categories using a whiteboard and index cards. Related data

was grouped by category by analyzing the journal reflections, focus group transcripts, and one-on-one interview transcripts individually and collectively. Categories were examined for meanings and themes by comparing similarities and differences both within and between the data sources using constant comparative methods.¹⁴⁹ The categories were then coded to identify themes and patterns within the qualitative data as a means of identifying the participant's lived experiences of receiving SP feedback.

Qualitative methodological rigor and congruence of findings were addressed by multiple means. Triangulation of data methods using journal reflections, focus groups, and a one-on-one interview supported credibility of the findings. A sufficient description of participants' demographics has also been provided to assist in decision making for readers of the research with regards to transferability of findings. The dependability and confirmability of the qualitative data was addressed through the use of an unbiased outside qualitative researcher and observer for the focus groups, the use of an outside reviewer for the examination of themes from the individual one-on-one interview, the utilization of a peer review by a researcher involved in the study, and attention to reflexivity of the primary investigator. The primary investigator used reflection as a means of minimizing any bias that may have been introduced into the qualitative analysis.¹⁴⁸ The primary investigator did conduct the semi-structured one-on-one interview, but it should be noted that this researcher had no prior relationship with the student participant. The individual facilitator and observer who conducted the focus groups were also unknown to the participants.

Resources

The primary resources required for this project were the costs for payment of the SPs, payment to the student participants, and other miscellaneous fees. The SPs were paid based upon the average fee paid to SPs in the Philadelphia region. The students received a small monetary payment and a gift certificate for their participation. A recording device was purchased for recording focus groups and the one-on-one interview. The approval of the use of the facilities at a private institution in the Philadelphia region was granted at no cost to the researcher. This dissertation study was partially funded by the American Physical Therapy Association's Education Section Adopt A Doc Scholarship.

Summary

This mixed method study incorporated an experimental design and phenomenological approach to examine the effect of SP feedback on PT student professional behaviors. The design utilized multiple quantitative outcome measures including the MSPSQ, PPTCVA, and PBA to analyze the impact of SP feedback after SP case scenarios. Focus groups, reflective journal writing, and a one-on-one interview were used to examine student perspectives on the SP feedback.

Chapter 4: Results

Introduction

This section describes the quantitative and qualitative results of this dissertation. Non-parametric statistics were used based upon the ordinal level of data and the alpha level was set at .05 for the quantitative data analyses. Bonferroni corrections were utilized to account for multiple comparisons in post hoc analyses. The statistical software, SPSS© Version 22, was used for all quantitative data analyses.¹⁵⁰ Qualitative data analyses included the identification of themes from the journal reflections, focus groups, and one-on-one interview data using a phenomenological approach to code and analyze data. Attention to saturation of concepts and triangulation of the data was incorporated.

Pilot Study Data Results

The inter-rater reliability of the individual items and aggregate scores of the MSPSQ was analyzed using Kendall's Coefficient of Concordance (Kendall's *W*) and intraclass correlation coefficients (ICC). The individual items of the MSPSQ demonstrated from poor to good reliability using Kendall's *W*. (Appendix 14) The average absolute agreement and average consistency using an ICC model for the aggregate scores of the MSPSQ was .71 and .88 respectively, suggesting good reliability.

Quantitative Statistical Results

Based upon the inclusion and exclusion criteria, the participants were 13 second year students out of a potential sample of 44 students in an entry-level DPT program at a private Northeastern University. Descriptive data of all participants was collected 6 weeks prior to the

study including age, gender, ethnicity, APTA membership status, history of receiving prior academic awards/scholarships, undergraduate degree, and grade point average (GPA) calculated from all completed classes in the DPT program courses. (Table 1) This demographic data was analyzed for group differences to test for homogeneity of the student participants. A Mann Whitney U was utilized to test for differences in gender, APTA membership status, and a history of receiving prior academic awards. There were no significant differences between groups for these variables. (Table 1) Age and GPA were compared using an independent t-test with an equal variance not assumed. There were no significant differences in age or GPA between groups. (Table 1) The participant's undergraduate degree was variable between individuals with psychology being the most common degree. All participants were Caucasian.

Table 1: Descriptive Data

Characteristics	Experimental (n = 7)	Comparison (n = 6)	p value
Women, N (%)	6 (85.7%)	3 (50%)	.181 ^a
Age, mean (SD), y	25.29 (4.07)	23.27 (1.03)	.344 ^b
APTA member, N (%)	4 (57.14)	2 (33.33)	.409 ^a
Prior Awards/Scholarships (%)	7 (100)	5 (83.33)	.280 ^a
Grade Point Average, mean (SD)	3.63 (.17)	3.62 (.14)	.890 ^b

^a Mann Whitney U

^b t-test equal variance not assumed

$\alpha = .05$

The baseline data including the PBA and PPTCVA scores were compared to assess for homogeneity between groups in perceived self-efficacy of professional behaviors prior to the intervention. There were no statistically significant differences between groups on the PBA prior to the intervention except the commitment to learning item. (Table 2) The aggregate scores in the PPTCVA domains did not show statistically significant differences between groups pre-intervention when examined using a Mann Whitney U. (Table 3)

Table 2: Professional Behaviors Assessment Domain Baseline Scores

Domains	Experimental Mean (SD)	Experimental Median (Min-Max)	Comparison Mean (SD)	Comparison Median (Min-Max)	p value
Critical Thinking	1.71 (.488)	2.0 (1.0 - 3.0)	1.83 (.753)	2.0 (1.0 – 2.0)	.213
Communication	2.00 (.000)	2.0 (1.0 - 4.0)	2.50 (1.01)	2.0 (2.0 – 3.0)	.793
Constructive Feedback	2.00 (.000)	2.0 (1.0 - 2.0)	2.00 (.632)	2.0 (1.0 – 2.0)	1.00
Commitment to Learning	2.00 (1.00)	2.0 (2.0 - 3.0)	2.00 (.632)	2.0 (1.0 – 3.0)	.033*
Interpersonal Skills	2.00 (.577)	2.0 (2.0 - 3.0)	2.17 (.408)	2.0 (2.0 – 2.0)	.561
Problem Solving	1.57 (.535)	2.0 (1.0 - 3.0)	1.83 (.408)	2.0 (1.0 – 2.0)	.859
Professional Behavior	1.86 (.378)	2.0 (1.0 - 3.0)	2.17 (.753)	2.0 (2.0 – 2.0)	.335
Responsibility	2.00 (.000)	2.0 (1.0 - 2.0)	2.17 (.408)	1.0 (1.0 – 3.0)	.280
Stress Management	1.71 (.756)	2.0 (1.0 – 4.0)	2.50 (1.23)	2.0 (1.0 – 3.0)	.221
Use of Time and Resources	2.00 (.000)	2.0 (2.0 - 4.0)	1.67 (.516)	2.0 (1.0 – 2.0)	.335

Mann Whitney U

$\alpha = .05$

Table 3: PPTCVA Domains Aggregate Baseline Scores

Domains	Experimental Mean (SD)	Experimental Median (Min – Max)	Comparison Mean (SD)	Comparison Median (Min - Max)	p value
Accountability	40.57 (1.90)	41.00 (37.0 – 43.0)	39.83 (2.93)	38.50 (37.0 – 44.0)	.565
Altruism	19.57 (2.70)	20.00 (15.0 – 23.0)	21.20 (3.27)	21.00 (18.0 – 25.0)	.348
Compassion	44.29 (2.98)	44.00 (40.0 – 48.0)	46.80 (8.59)	47.50 (33.0 – 54.0)	.616
Excellence	39.14 (5.24)	40.00 (33.0 – 48.0)	45.67 (5.99)	44.50 (39.0 – 55.0)	.063
Integrity	47.14 (3.89)	48.00 (41.0 – 53.0)	50.33 (6.62)	50.00 (44.0 – 60.0)	.473
Social Responsibility	29.00 (3.46)	30.50 (27.0 – 35.0)	30.50 (2.88)	28.00 (23.0 – 34.0)	.716
Professional Duty	39.71 (9.64)	39.00 (29.0 – 57.0)	39.67 (9.00)	38.00 (31.0 – 57.0)	.512

Mann Whitney U

$\alpha = .05$

Modified Standardized Patient Satisfaction Questionnaire Results

To measure central tendency and dispersion of the data, means, standard deviations, medians, minima, and maxima were calculated for the MSPSQ aggregate scores. (Tables 4, 5)

Table 4: MSPSQ Descriptive Data First and Second Cases

	Experimental (n = 6)	Comparison (n = 5)
Case 1 Aggregate Scores	66.00 (40 - 69)	57.00 (40 - 68)
Case 2 Aggregate Scores	64.50 (55 - 70)	64.00 (55 - 67)

Table 5: MSPSQ Means and p values First and Second Cases

	Experimental (n = 6)	Comparison (n = 5)	p value
Case 1 Mean Aggregate Scores (SD)	63.17 (8.35)	56.0 (11.73)	.272 ^a
Case 2 Mean Aggregate Scores (SD)	63.17 (6.74)	62.0 (4.90)	.522 ^a
Mean Change Scores Case 1 to Case 2 (SD)	0 (10.1)	6.0 (10.79)	.273 ^a
Within Subject Differences	.893 ^b	.225 ^b	

^a Mann Whitney U

^b Wilcoxon Signed Ranks

$\alpha = .05$

One student participant had missing data on 1 item on the MSPSQ. Therefore, this participant's data was excluded from the analysis of aggregate MSPSQ scores. Selected individual items of the MSPSQ were analyzed separately. Individual items of the MSPSQ were only included if they demonstrated at least moderate reliability coefficients as identified during the pilot study. The data for the individual items of the MSPSQ were analyzed for all student participants. One participant who was allocated to the comparison group dropped out after randomization and did not complete the SP case scenarios.

The MSPSQ aggregate scores were examined within subjects by comparing the 2 cases completed by the student participants. The aggregate scores were compared in the order they

were completed by the student. As discussed previously, each student was randomly assigned to complete either case A or case B first. The Wilcoxon Signed Ranks Test was utilized to compare the aggregate MSPSQ scores for each participant between their first and second case scenario. (Table 5) This allowed an analysis of differences within subjects between case scenarios on the MSPSQ scores. There were no statistically significant differences in the aggregate MSPSQ scores within subjects.

Table 6: MSPSQ Individual Items p values

	Experimental (n = 7)	Comparison (n = 5)	p value
Being upfront and candid to the patient	.564 ^a	1.00 ^a	.714 ^b
Letting the patient tell their story; listening carefully, not interrupting the patient while they are talking	1.00 ^a	.705 ^a	.925 ^b
Discussing options with the patient, asking the patient's opinion, and offering choices	.025 ^a	.257 ^a	.927 ^b
Acknowledging the patient's feelings about their problems and treatment, explaining any technical medical terms in plain language	.257 ^a	.257 ^a	.673 ^b
The interview flow made sense and the questions followed logically	.046 ^a	.180 ^a	.857 ^b

a = Wilcoxon Signed Rank Test b = Mann Whitney U $\alpha = .01$

When examining the selected individual items of the MSPSQ, two individual items for the experimental group approached significance within subjects. (Table 6) These included discussing options with patients and the logical flow of the interview. There were no significant differences found on these items for the comparison group subjects. In these individual comparisons, Bonferroni corrections were applied. When reviewing the descriptive data for the both comparison and experimental groups, the mean MSPSQ scores tended to increase from case 1 to case 2 on these individual items. (Tables 7, 8)

Table 7: MSPSQ Individual Item Descriptive Data Comparison Group

	Case 1	Case 2
Question 7: Discussing options with the patient, asking the patient’s opinion, and offering choices	Mean 3.40 (SD 1.14) Median 3.00	Mean 4.20 (SD .837) Median 4.00
Question 12: The interview flow made sense and the questions followed logically	Mean 4.0 (SD 1.42) Median 5.00	Mean 4.80 (SD .447) Median 5.00

Table 8: MSPSQ Individual Items Descriptive Data Experimental Group

	Case 1	Case 2
Question 7: Discussing options with the patient, asking the patient’s opinion, and offering choices	Mean 3.57 (SD .787) Median 4.00	Mean 4.29 (.756) Median 4.00
Question 12: The interview flow made sense and the questions followed logically	Mean 4.00 (SD .816) Median 4.00	Mean 4.57 (SD .535) Median 5.00

Change scores were computed by subtracting the MSPSQ scores in the first case from the second case. These were analyzed with a Mann Whitney U Test to assess for differences between the groups on MSPSQ score between case scenarios. (Table 5) There were no statistically significant differences between the groups from their first to second case.

A Mann Whitney U was also utilized to examine differences between the experimental and comparison groups for each individual case regardless of order. There was no statistically significant difference in aggregate MSPSQ scores between the experimental and comparison groups for case A and case B. (Appendix 14)

Professional Behaviors Assessment Results

The PBA data was analyzed both with and without the inclusion of 2 participants who were assigned to an international clinical experience. Means and standard deviations were calculated for each domain in the PBA including all participants. (Table 9)

Table 9: PBA Assessment Means (SD)

	Pre SP Exp	Pre SP Comp	Post SP Exp	Post SP Comp	CE Exp	CE Comp
Critical Thinking	1.71 (.488)	1.83 (.753)	1.71 (.756)	1.67 (.516)	2.14 (.690)	1.83 (.753)
Communication	2.00 (.000)	2.50 (1.01)	2.14 (.690)	2.50 (.548)	2.57 (.535)	2.50 (.548)
Constructive Feedback	2.00 (.000)	2.00 (.632)	2.29 (.756)	2.50 (.548)	2.57 (.535)	2.00 (.632)
Commitment to Learning	2.00 (1.00)	2.00 (.632)	1.86 (.900)	2.33 (.516)	2.14 (.900)	2.17 (.753)
Interpersonal Skills	2.00 (.577)	2.17 (.408)	2.29 (.756)	2.67 (.516)	2.71 (.488)	2.67 (.816)
Problem Solving	1.57 (.535)	1.83 (.408)	1.71 (.488)	2.33 (.816)	2.14 (.378)	1.83 (.408)
Professionalism	1.86 (.378)	2.17 (.753)	1.86 (.690)	2.50 (.548)	2.57 (.535)	2.67 (.516)
Responsibility	2.00 (.000)	2.17 (.408)	2.14 (.690)	2.17 (.408)	2.43 (.535)	2.33 (.516)
Stress Management	1.71 (.756)	2.50 (1.23)	2.14 (.378)	3.00 (.894)	2.29 (.488)	2.33 (.516)
Use of Time and Resources	2.00 (.000)	1.67 (.516)	2.29 (.756)	2.17 (.408)	2.57 (.535)	2.00 (.000)

Exp = Experimental; Comp = Comparison; CE = Clinical Experience

Within Subjects Professional Behaviors Assessment

A Friedman's ANOVA was used to assess the 3 measures of the PBA for each participant both with and without the participants who completed an international clinical experience. (Tables 10, 11) These time frames included pre-intervention, after the completion of the SP case scenarios, and at the 3 week point during the students' clinical experience. This allowed an analysis of any differences within subjects on the PBA before and after the intervention. A Bonferroni correction was applied based upon multiple comparisons.

Table 10: PBA Within Subjects (Including International Experience Participants)

	Experimental Group	Comparison Group
Critical Thinking	.513	.717
Communication	.115	.905
Use of Constructive Feedback	.196	.165
Commitment to Learning	.387	.549
Interpersonal Skills	.154	.105
Problem Solving	.174	.050
Professionalism	.016	.223
Responsibility	.292	.779
Stress Management	.039	.165
Use of Time and Resources	.196	.156

Friedman's ANOVA

Experimental n=7; Control n=6

$\alpha = .005$

Table 11: PBA Within Subjects (Excluding International Experience Participants)

	Experimental Group	Comparison Group
Critical Thinking	.779	.717
Communication	.091	.905
Use of Constructive Feedback	.305	.165
Commitment to Learning	.662	.549
Interpersonal Skills	.305	.105
Problem Solving	.264	.050
Professionalism	.105	.223
Responsibility	.264	.779
Stress Management	.233	.165
Use of Time and Resources	.305	.156

Friedman's ANOVA

Experimental n=5; Control n=6

$\alpha = .005$

There were no statistically significant differences on any item of the PBA when the international clinical experience participants were excluded. When all participants were included, the professionalism and stress management items approached significance for the experimental group. In both cases, the means tended to increase from the pre PBA measurement to the mid clinical experience measure as shown in Table 9.

Between Groups Professional Behaviors Assessment

Change scores were also calculated for the PBA at the 3 times points and comparisons were made using a Kruskal-Wallis ANOVA to examine for between group differences both with and without the participants who completed an international clinical experience. (Tables 12, 13)

Table 12: PBA Between Groups (Including International Clinical Experience Participants)

	Pre-Intervention to Post SP	Post SP to Clinical Experience	Pre-Intervention to Clinical Experience
Critical Thinking	.681	.647	.389
Communication	.681	.244	.147
Constructive Feedback	.633	.171	.108
Commitment to Learning	.619	.361	.760
Interpersonal Skills	.649	.409	.447
Problem Solving	.335	.027	.081
Professionalism	.499	.058	.382
Responsibility	.681	.938	.521
Stress Management	.805	.036	.215
Use of Time and Resources	.165	.100	.619

Kruskal-Wallis ANOVA

Experimental n=7; Comparison n=6

$\alpha = .005$

Table 13: PBA Between Groups (Excluding International Clinical Experience Participants)

	Pre-Intervention to Post SP	Post SP to Clinical Experience	Pre-Intervention to Clinical Experience
Critical Thinking	.338	.686	.614
Communication	.284	.325	.103
Constructive Feedback	1.00	.317	.125
Commitment to Learning	.838	.497	.923
Interpersonal Skills	.768	1.00	.752
Problem Solving	.219	.035	.104
Professionalism	.562	.156	.609
Responsibility	.284	.686	.609
Stress Management	.326	.056	.432
Use of Time and Resources	.194	.176	.392

Kruskal-Wallis ANOVA

Experimental n=5; Comparison n=6

$\alpha = .005$

Pre-intervention PBA item scores were compared to scores completed immediately after the SP case scenarios and at the end of week 3 of the clinical experience. Bonferroni corrections were applied based upon multiple comparisons with no statistically significant differences noted in any category both with and without the participants who completed an international clinical experience.

There was a trend toward significance on the item of problem solving with and without the participants who completed an international clinical experience. There was also a trend for significance on the item for stress management when all participants were included. When examining these trends, the difference was noted between the time frames of post SP PBA measures as compared to clinical experience measures. The experimental group tended to rate themselves higher whereas the comparison group tended to rate themselves lower (Table 9).

Professionalism in PT Core Values Assessment Results

The PPTCVA data was analyzed both with and without the inclusion of 2 participants who were assigned to an international clinical experience. Means and standard deviations were calculated for the aggregate scores that were compiled for each domain. (Table 14)

Table 14: Aggregate PPTCVA Means (SD)

	Pre SP Exp	Pre SP Comp	Post SP Exp	Post SP Comp	CE Exp	CE Comp
Accountability	40.57 (1.90)	39.83 (2.93)	42.43 (2.57)	39.83 (2.48)	41.29 (3.95)	43.17 (1.72)
Altruism	19.57 (2.70)	21.20 (3.27)	20.43 (1.51)	21.40 (2.61)	21.29 (1.98)	20.40 (2.70)
Compassion	44.29 (2.98)	46.80 (8.59)	47.57 (4.76)	46.60 (5.60)	47.71 (2.75)	49.20 (4.87)
Excellence	39.14 (5.24)	45.67 (5.99)	45.00 (3.56)	45.00 (7.67)	44.43 (3.41)	47.83 (3.92)
Integrity	47.14 (3.89)	50.33 (6.62)	52.14 (5.34)	54.00 (4.90)	53.14 (5.98)	55.00 (4.98)
Professional Duty	29.00 (3.46)	30.50 (2.88)	31.71 (2.22)	32.00 (2.20)	30.43 (2.51)	31.17 (2.23)
Social Responsibility	39.71 (9.64)	39.67 (9.00)	41.43 (5.56)	40.83 (8.75)	40.71 (6.40)	42.17 (8.93)

Exp = Experimental; Comp = Comparison; CE = Clinical Experience

Within Subjects PPTCVA

A Friedman's ANOVA was used to assess the 3 aggregate measures of each PPTCVA domain for each participant both with and without 2 participants who completed an international clinical experience. (Tables 15, 16)

Table 15: PPTCVA Within Subjects (Including International Clinical Experience Participants)

	Experimental	Comparison
Accountability	.260	.056
Altruism	.764	.526
Compassion	.066	.607
Excellence	.006*	.247
Integrity	.141	.091
Professional Duty	.417	.819
Social Responsibility	1.00	.819

Friedman's ANOVA Experimental n=7; Comparison n=6 $\alpha = .007$

Table 16: PPTCVA Within Subjects (Excluding International Experience Participants)

	Experimental	Comparison
Accountability	.504	.056
Altruism	.946	.526
Compassion/Caring	.091	.607
Excellence	.021	.247
Integrity	.327	.091
Professional Duty	.390	.819
Social Responsibility	.819	.819

Friedman's ANOVA Experimental n=5; Comparison n=6 $\alpha = .007$

This allowed an analysis of differences within subjects on the PPTCVA before and after the intervention. A Bonferroni correction was applied based upon multiple comparisons. There were no statistically significant differences on any item of the PPTCVA when the international clinical experience participants were excluded. There was a statistically significant difference in the experimental group on the domain of excellence with these international clinical experience students included. In this domain when all participants were included, the

experimental group tended to rate themselves higher after the SP experience with a minimal decrease once on their clinical experience as shown in Table 14.

Between Groups PPTCVA

Change scores were calculated and examined with a Kruskal-Wallis ANOVA for between group differences. There were no significant differences on any domain of the PPTCVA between groups. (Tables 17, 18) The item of excellence approached significance between groups from the pre PBA measure to the post SP PBA measure when including all participants.

Table 17: PPTCVA Between Groups (Including International Experience Participants)

	Pre-Intervention to Post SP	Post SP to Clinical Experience	Pre-Intervention to Clinical Experience
Accountability	.128	.021	.249
Altruism	.934	.162	.367
Compassion	.254	.328	.085
Excellence	.045	.280	.151
Integrity	.615	.943	.829
Professional Duty	.564	.665	.885
Social Responsibility	.886	.885	.668

Kruskal-Wallis ANOVA Experimental n=7; Comparison n=6 $\alpha = .007$

Table 18: PPTCVA Between Groups (Excluding International Experience Participants)

	Pre-Intervention to Post SP	Post SP to Clinical Experience	Pre-Intervention to Clinical Experience
Accountability	.196	.054	.233
Altruism	.750	.456	1.00
Compassion	.141	.207	.115
Excellence	.082	.460	.314
Integrity	1.00	.853	.927
Professional Duty	.646	.644	.853
Social Responsibility	.855	.463	.464

Kruskal-Wallis ANOVA Experimental n=5; Comparison n=6 $\alpha = .007$

The mean excellence scores tended to increase in the experimental group and decrease in the comparison group after the SP case scenarios during this time frame. The item of accountability also approached significance from the post SP PBA measure to the mid clinical experience measure when including all participants. The accountability mean measures tended to decrease for the experimental group with an increase noted in the comparison group.

Completer Analysis

A completer analysis was also performed that did not include the 1 participant who dropped out prior to receiving the intervention. This participant was allocated to the control group. When examining the PBA, the items of stress management and problem solving approached significance during the post SP to mid clinical experience measures. (Table 19)

When analyzing the PPTCVA, the item of accountability approached significance from the post SP PPTCVA and the mid clinical experience measures. (Table 20)

Table 19: PBA Between Groups Completer Analysis

	Pre-Intervention to Post SP	Post SP to Clinical Experience	Pre-Intervention to Clinical Experience
Critical Thinking	.647	.731	.431
Communication	.714	.292	.197
Constructive Feedback	.470	.137	.148
Commitment to Learning	.517	.431	.861
Interpersonal Skills	.547	.445	.692
Problem Solving	.240	.022	.109
Professional Behavior	.456	.093	.588
Responsibility	.714	1.00	.651
Stress Management	.575	.026	.288
Use of Time and Resources	.147	.109	.517

Kruskal-Wallis ANOVA

Experimental n=7; Comparison n=5

$\alpha=.005$

Table 20: PPTCVA Between Groups Completer Analysis

	Pre-Intervention to Post SP	Post SP to Clinical Experience	Pre-Intervention to Clinical Experience
Accountability	.164	.011	.140
Altruism	.923	.151	.339
Compassion	.298	.296	.182
Excellence	.073	.164	.289
Integrity	.744	.744	.935
Professional Duty	.623	.806	1.00
Social Responsibility	.807	.806	.684

Kruskal-Wallis ANOVA Experimental n=7; Comparison n=5 $\alpha=.007$

Effect Sizes PBA Items

Calculation of effect sizes of the PBA items that approached significance were also completed as secondary analyses. When comparing the comparison and experimental groups on the problem solving and stress management items, the effect sizes were .434 and .415 respectively. These were analyzed for the PBA measures between the post SP time frame and the mid clinical experience. When examining the within subject effect sizes, the experimental group effect sizes were .598 for the professionalism item and .534 for the stress management item. Effect sizes were not calculated for the comparison group subjects since the measures did not approach significance for any item.

Effect Sizes PPTCVA

The PPTCVA items that approached significance were also examined using effect sizes. When comparing the experimental and comparison groups on the excellence and accountability items, the effect sizes were .394 and .452 respectively. The excellence item was significant between the pre intervention and post SP time frame whereas the accountability item differed between the post SP and mid clinical experience time frames. When examining

the excellence item within the experimental group, this value reached statistical significance and demonstrated an effect size of .634. Effect sizes were not calculated for the comparison groups due to the lack of statistical significance for the PPTCVA items.

Qualitative Results

Four primary themes emerged from the qualitative data: seeing through the patient's eyes; hearing an objective truth in a safe environment; how feedback is received matters; and verbal feedback promotes student self-efficacy of professional behaviors. These themes differed between the verbal feedback and no verbal feedback groups on how feedback is received and how the verbal feedback promotes student self-efficacy of professional behaviors. The qualitative findings were similar for the verbal feedback and no verbal feedback groups on seeing through the patient's eyes and hearing an objective truth in a safe environment. Overall the themes were triangulated through the reflections, focus groups, and one-on-one interview findings. The one-on-one interview themes were confirmed by an expert outside reviewer and the focus groups were conducted by an independent qualitative researcher and observer to minimize researcher bias and reflexivity. All themes were confirmed through peer review by a member of the research study team with qualitative expertise.

Seeing Through the Patient's Eyes

Student participants in both groups observed the importance of building relationships with patients, understanding the patient perspective, and making personal connections with them. This was apparent in both the journal reflections and focus groups. Following the SP experience, participants noted they gained insight into their patient's emotions, enabling them to see things from the patient perspective and be more effective at responding to the patient. A

verbal feedback participant shared that they learned to “better deal with patient’s emotions such as the anxiety or nervousness of being in a physical therapy office.” Another response by a verbal participant relayed that “it is a great feeling when the patient is truly comfortable and knows that you care about them.” A no verbal feedback participant relayed that “I learned that I need to create a better bond between my patients and myself. While I am personable, I do not relate to how they are feeling as much as I should.”

As noted in the journal reflections during their clinical experiences, participants reported on their emotional and psychological connection with patients as being an important component of the therapeutic relationship. Many observed that they had a better understanding of the importance of approaching patients with empathy and concern and attending to patients psychological needs derived from the SP experiences. One verbal feedback participant reported that when treating patients during their clinical experience “I was concerned with doing the best that I can because I sincerely want them to find relief or get them back to performing the activities they miss doing.” A no verbal feedback participant noted that “it made me realize that I need to spend more time thinking as a patient would think.”

In the one-on-one interview, the participant noted the importance of developing rapport and understanding of the patient perspective. This individual explained that this allowed him to develop with relationships with patients and improved patient participation in physical therapy sessions. As noted in a journal reflection, another participant relayed that the development of an empathetic relationship may impact the patient’s confidence in their therapist.

It should also be noted that the participants who completed an international clinical experience relayed similar reflections regarding the patient perspective. As noted by one participant, “it impacted my learning because I know that I need to connect on an emotional level with my patients.” The other participant relayed “the feedback made me realize that I have to truly understand I am talking to a person and not just someone in a practical situation.”

Hearing an Objective Truth in a Safe Environment

The student participants in both groups observed the unique contributions of SPs in relation to other learning techniques such as ICE and lab practical in the focus groups and journal reflections. As noted by a verbal feedback participant, “it was actually nicer to work with someone who you have never met before as it gives a sense of real professionalism and allows for no previous bias to occur.”

Student participants reported that the feedback differed from any prior feedback from faculty or patients. As noted in the verbal feedback focus group, “patients do not really tell us their true feelings because they have to see us again or they don’t want to jeopardize the treatment.” As observed by participants, faculty tend to provide feedback on the clinical aspects of performance during lab practical with no attention to other aspects of professional performance. A no verbal feedback participant reported that “when we go into our practical exams, we get feedback on how we do whatever physical manipulation we are doing...not necessarily how the patient feels.” As noted by another no verbal participant, “I’m not trying to get a passing grade, I’m just trying to...make them feel comfortable and explain to them....It was nice to know that both of my standardized patients said that they felt extremely comfortable

with me and felt that I was a knowledgeable person and they were in the...right hands. That was good to hear because you don't hear that on an exam."

As noted by another verbal feedback participant during their clinical experience, "the standardized patient experience was a good reminder that we will be interacting with people with real impairments rather than staged patient cases acted out by our PT professors in class."

A no verbal feedback participant on clinical experience relayed that "I felt more comfortable talking with a real patient as compared to talking to a patient who is also my teacher as well."

Another no verbal feedback participant stated that they "approached patients with a more emic perspective when meeting [patients] during the clinical experience."

In the one-on-one interview, the participant perceived the SP experience to provide a level of uncertainty that differed from faculty interactions. In relation to faculty, this participant remarked that "I know exactly what to expect from them and they don't scare me as much as they should." On the other hand, with the SP, the student explained "I don't know if they [patients] know what is coming next" because "they don't know what to expect." As stated by another participant in the journal reflections, "the SP experience primed me for interacting with real patients [during the clinical experience]."

The participants in both groups relayed that the honest, constructive feedback as a learning experience was important and that a graded experience may not have impacted their experience in the same way. This environment differed from prior graded lab practical and ICE requiring assessment by academic or clinical faculty. As noted by a verbal feedback participant, "I'm not trying to get a passing grade, I'm just trying to...make them feel comfortable and explain it to them." The SP experiences incorporated formative feedback in a non-threatening

environment and this was perceived as an important component of the learning process as expressed by participants.

How Feedback is Received Matters

In both the focus group and journal reflections, the verbal feedback participants relayed that the SP experiences and feedback were useful forms of constructive feedback. However, the verbal and no verbal participants differed in their observations in terms of the depth and breadth of feedback provided. As observed by a verbal feedback participant, “the SP provided incredibly productive feedback which included much information which can be taken not only from session to session but as well in future endeavors.” Participants in the verbal feedback group also reported improvement between the first and second SP case scenarios with the ability to apply feedback immediately. As noted by one verbal feedback participant, “this was such a great experience to have right before I go out on my clinical affiliations. I learned so much after the first one that I was able to apply immediately during my second one. As relayed in the one-on-one interview, “even going from the first [case scenario] to the second I had already learned something.”

Another participant perceived that “I received a lot of useful feedback from both of the SP actors with both cases that I will utilize while working with real patients in the future and now at our pro bono clinic.” A verbal feedback participant stated:

“I thought that [it was] positive that you get...the rubric at the end and then you’re allowed to look at it, and it...gives you a visual of these are the things that I did well, these are the things that I need to improve upon, and then actually getting to talk with

the person...and ask okay you marked me this on this...what did you mean by...and then you could do the follow-up questions which I thought was very helpful.”

A verbal feedback participant noted that “having the rubric, it allowed us to see a physical grade like we are used to...so having that feedback comforted us but then being allowed to elaborate on everything.” As relayed by another verbal feedback participant, “Both of my SPs gave me constructive feedback that I have never heard before from classmates or from faculty. They were very honest in their evaluations of my performance and gave me reasons as to why they scored me the way they did.”

Although the overall experience was rated positive by the no verbal feedback group, there were differences in their perceptions of the value of the SP feedback. The no verbal feedback group consistently observed that understanding why they received certain scores on the rubric would have been helpful. As noted by a no verbal feedback group participant, “it would have been nice to get verbal feedback or comments [on the rubric] because it was just a scale from 1 to 5. You didn’t really understand what made them want to put that score.” As shared by another no verbal feedback participant, “it would have been nice to get some verbal feedback...in terms of things that you could have improved upon. I feel like the whole point of feedback is to improve your skills which without some sort of understanding of why a certain score was given may be difficult.”

Verbal Feedback Promotes Student Self-Efficacy of Professional Behaviors

Verbal feedback student participants described an increased self-efficacy in their professional behavior capabilities and validation as a professional student PT after the SP experiences in both the focus groups and journal reflections. As reported by one verbal

feedback participant, it was “the first time being actually alone in a room with a patient, feeling like it’s on us, like we have the power because there’s always someone with us [teachers or clinical instructors].” This sense of self-efficacy was noted as important as a means of preparing for their clinical experiences. Six of the 7 verbal feedback participants reported an increase in their capabilities after the SP experience. These participants relayed increased confidence in interview skills, interactions with patients in general, and an appreciation that their prior coursework had prepared them for true patient care. As noted by a verbal feedback participant, “I learned that I do have strengths and skills which make me a good interviewer and this helped to increase my confidence.” It is important to note that this sense of increased self-efficacy for the verbal feedback group continued during their clinical experiences. This theme of promotion of self-efficacy was not observed in the no verbal feedback group, with those participants reporting a general increase in self-esteem as compared to self-efficacy. As noted by one no verbal feedback participant, “it mostly made me feel good about myself.”

When examining the qualitative data reported by verbal feedback participants once they began their actual clinical experiences, there was a continued emphasis on the increase in self-efficacy as they began to interact with patients. As observed by one participant, “my CI has actually told me that I seem calm, comfortable, and confident with patients.” One participant relayed that “I feel confident talking with my patients and explaining their pathologies to them.” A verbal feedback participant noted “I have used the feedback from my SP with each new patient interaction. I have tried to incorporate the things they told me to improve on now each time I work with a patient.” As shared by one participant:

“I think that I have done a good job of making a relationship with most of my patients so far and done a good job of addressing their goals as well as the therapeutic goals that I have set for them. I feel confident talking with patients and explaining their pathologies to them. After the [SP] experience, I felt comfortable in many aspects of my interview process but also less confident in other areas. I feel like I have tried to use their feedback in the best way I can. In many ways, it made me feel more confidence of my skills.”

Other Suggestions by Participants

Some other observations by student participants included appropriate placement of SP case scenarios in the curriculum with general agreement that placement of the scenarios prior to clinical experiences appeared to be of benefit. Participants also suggested that other types of SP scenarios would be helpful, such as the inclusion of cultural issues or family dynamics.

Summary

There were no statistically significant difference on any quantitative outcome measure between the experimental and comparison groups with exception of the excellence item of the PPTCVA. The excellence item did reach statistical significance in the experimental group within subjects. There were trends toward significance on some items of the PBA and PPTCVA but these did not reach significance once Bonferroni corrections were applied. The qualitative data demonstrated 4 primary themes: seeing through the patient’s eyes; hearing an objective truth in a safe environment; how feedback is received matters; and verbal feedback promotes self-efficacy of professional behavior. These themes varied between the verbal feedback and no

verbal feedback group participants, with the verbal feedback group perceiving enhanced benefit from the experience as compared to the no feedback group.

Chapter 5: Discussion

Introduction

In this chapter, the results of this dissertation are analyzed and discussed in relation to the current literature on educational practices for the development of professional behaviors in PT students. Threats to internal and external validity are discussed. Limitations and delimitations of the study are addressed. The implications of the findings and recommendations for future research are discussed in detail.

Discussion

Descriptive Data

An analysis of the descriptive data demonstrated no statistically significant differences between the experimental and comparison groups prior to the intervention. Demographic characteristics were similar in both groups in terms of gender, age, APTA membership status, history of prior awards or scholarships, and GPA. It should be noted that a large percentage of the entire sample reported a history of awards or scholarships and the average GPA was relatively high. These characteristics need to be considered when generalizing results to other student populations. It cannot be discounted that individuals with lower GPAs or academic status may respond differently when exposed to SPs.

The individual items of the PBA and PPTCVA were analyzed at baseline to assess for homogeneity between groups. There was not a statistically significant difference in any of the items of the PBA except the commitment to learning item. The comparison group tended to rate themselves lower than the experimental group on the commitment to learning item of the

PBA. It is unclear if the baseline difference between groups may have skewed the post-intervention PBA scores on this item. With an analysis of the PPTCVA aggregate scores in the various domains at baseline, there were no significant differences in any of the domains. Based on these results, it appears that the groups were similar at baseline in all variables except the commitment to learning item. This homogeneity minimizes any pre-intervention differences that may have impacted the results after introduction of the SP experiences.

Modified Standardized Patient Satisfaction Questionnaire Data Analysis

When analyzing the MSPSQ data, there was a wide dispersion in MSPSQ minimum and maximum scores in the experimental and the comparison groups on both case scenarios. The range of scores was lower in the second case as compared to the first in both groups suggesting less variability in scoring on the second case. There was a 7 point mean difference in scores on the first case when comparing the experimental and comparison groups with large standard deviations in scores in both groups. The mean scores were lower in the comparison group on case 1 but this did not reach statistical significance. The variability in the MSPSQ scores may have potentially impacted the actual statistical differences between the first and second cases. This variability may be related to the order that the case scenarios were completed or other potential confounding factors such as differences in the feedback delivery by SPs or differences in how the SPs portrayed the cases.

If one examines the aggregate MSPSQ data within subjects, no statistically significant differences were noted in either the experimental or comparison group subjects when comparing the first and second cases. There was a 6 point mean difference in scores between

the first and second cases within the comparison group, but this did not reach statistical significance. No difference existed in mean scores in the experimental group subjects.

When analyzing the aggregate MSPSQ data between groups, no significant differences were found between the experimental and comparison groups on the first or second case as well. Based on the variability on the first case scores and the small sample size, it is plausible that a type II error may have occurred and a true difference may have existed between the first and second case scores.

When examining the individual items of the MSPSQ for within subject differences, no significant differences were found. There was a trend toward significance on items 7 and 12 in the experimental group between case 1 and case 2. Item 7 rates student performance on “discussing options with the patient, asking the patient’s opinion, and offering choices.” Item 12 rates student performance on the interview flow and logical order of the history. One cannot discount that these differences may be related to potential variability of verbal feedback provided by SPs in the experimental group. This may be a factor since the SPs were trained in 2 separate groups and these MSPSQ items only demonstrated moderate reliability. Furthermore, it should be noted that both the experimental and comparison groups identified the importance of developing relationships with patients in the qualitative data. Based on this finding, one may have expected a similar trend within subjects in the comparison group for item 7.

Case A and case B scores were also analyzed for differences between groups. Although significant between group differences were not found, there was a trend for lower mean scores on case B as compared to case A. This may suggest that the level of difficulty of case B may

have been higher in relation to case A. This potential difference in difficulty of the cases may have impacted the second case scores due to the random order of the cases among subjects.

Based upon the quantitative findings for the MSPSQ, the first and second hypotheses that there would be differences within subjects or between groups on the MSPSQ aggregate scores is refuted and the null hypothesis must be maintained. However, due to the small sample size and variability in scoring on the MSPSQ, there may have been a type II error and a true difference may exist.

In examining the literature in relation to this study, there were some similarities noted. In prior research by Schlengel, nursing students were exposed to either SP encounters or RP experiences prior to their clinical rotations.⁷⁵ The SP students received feedback on communication from SPs after the encounters while the RP students received feedback from peers. During the clinical rotation, a small subsample of students were assessed by patients and faculty supervisors on their communication skills. There were no statistically significant differences in communication scores between the SP and RP groups but patient ratings of students were found to be positive in general.

Similar findings in this study were noted with a lack of between differences in MSPSQ rubric scores based upon the type of feedback experience provided to students. This aligns with the findings of Schlengel in that feedback scores were similar regardless of type of feedback experience. It should be noted that Schlengel's study utilized patients who tended to provide only positive feedback, which does not appear to be a factor in this study. When one examines the scoring of the MSPSQ, there is significant variability in the scores suggesting that both

positive and negative feedback was provided. This increased variability may have potentially resulted in an underestimation of effect.

In a pilot study completed by Becker, undergraduate nursing students were randomly assigned to a control group or experimental group.⁵⁹ Participants in the experimental group were videotaped completing a SP interview, participated in a faculty led post-interview group discussion, and completed a self-analysis of their performance. These participants received written feedback on communication by the SP using a yes/no checklist. The control group discussed how they would approach the same case with no exposure to SPs.

A small subsample of the 2 groups participated in unannounced SP encounters while on a subsequent clinical internship. Based on SP global ratings of interpersonal skills, there were no significant differences between participants who completed the unannounced SP encounters. The SP global ratings of interpersonal skills were not shared with the participants. In this dissertation, there were also no differences in professional behavior SP ratings as measured by the MSPSQ. In the Becker study, communication was the only domain measured using a written rubric.⁵⁹ In this study, more specific feedback was provided on multiple domains of professional behavior. The complexity of the domains of professional behavior may have impacted the ability to find a significant difference in the MSPSQ scores.

Although there were similar quantitative findings on the use of a written rubric between this study and prior research, all of these studies had small sample sizes so strong conclusions on the effectiveness of different feedback experiences cannot be made. Furthermore, in this dissertation, qualitative data suggests that students felt that SP feedback differed from real patient feedback and there were differing perceptions about the value of this feedback

between groups. Participants in both groups relayed that SP feedback differed from prior feedback received from patients or faculty. Furthermore, it appears that participants in the comparison group may have placed a greater value on the SP experience if more detailed verbal feedback had been provided.

Professional Behaviors Assessment Data Analysis

The PBA is a self-assessment of one's abilities in the domains of critical thinking, communication, use of constructive feedback, commitment to learning, interpersonal skills, problem solving, professionalism, responsibility, stress management, and use of time and resources. When examining the within subject and between group differences, there were no statistically significant differences on any of these domains, which refutes the hypotheses that there would be a within subject and/or between group difference. This was true with and without the inclusion of the participants who completed an international clinical experience. In addition, the same findings on the PBA between group differences were noted with an intention to treat versus a completer analysis.

There was a moderate effect size between groups on the PBA items of problem solving and stress management when all participants were included. This suggests a moderate difference in the magnitude of values between the groups on these variables. The p values for problem solving and stress management approached significance but did not reach the a priori alpha levels based on Bonferroni corrections. Based on these findings, one cannot discount a type II error based upon the small sample size.

Although there was no statistically significant change on the professional behaviors between groups, stress management and problem solving did show trends toward positive

improvements when examining the time frame from the post SP experience to the mid clinical experience. In a study by Dearmon, lower anxiety levels were observed in nursing students exposed to SPs immediately after the SP encounters.¹⁵¹ This supports the findings in this dissertation with the trend toward improved confidence in the use of stress management noted between groups in favor of the experimental group.

In a study of performance of medical students on problem solving in SP encounters, a correlation was found with later performance on examinations.¹⁵² In this study by Rosenbraugh, faculty members rated student performance of problem solving of SP case scenarios.¹⁵² Although this was a faculty assessment of student performance, it does suggest that problem solving may be impacted by participation in SP encounters. In this dissertation, there was a trend toward a difference in the student's perceived problem solving abilities after the SP encounters which continued into the clinical experience.

These findings suggest that there may be differing levels of confidence in problem solving and stress management between the 2 groups once the participants began their clinical experiences. This may be an important finding as the trend was an increase in ratings within the experimental group. Furthermore, this aligns with the qualitative findings of an increase in self-efficacy observed by experimental group participants both immediately after the SP experience and during the clinical experience.

There were also moderate effect sizes noted for the professionalism and stress management items within subjects for the experimental group when all participants were included. It is of note that the comparison group means did not approach significance on these items suggesting a differential effect within subjects. The experimental group means

progressively increased from the pre SP to mid clinical experiences on both of these PBA items. The trend in the comparison group means for the professionalism PBA item was a decrease once beginning the clinical experience but this did not reach statistical significance. Although prior health care student research suggests improvements in interpersonal and communication skills, research could not be identified that translated this to the clinical environment. Research on practicing physicians does suggest that SPs may have a positive impact on professional behavior development including communication and interpersonal skills.¹⁵³ These attributes may be associated with overall professional behavior and may be applicable to students as well.

Professionalism PT Core Values Assessment Analysis

The PPTCVA is a 68 item self-assessment that includes the broad categories of accountability, altruism, compassion/caring, excellence, integrity, professional duty, and social responsibility. There were no statistically significant differences within groups or between groups in any of these domains with the exception of excellence in the experimental group when all participants were included. These findings were consistent when comparing an intention to treat versus completer analysis with the exception of the excellence item.

Using the intention to treat model, the mean scores for excellence tended to increase from the pre intervention to mid clinical experience measure in the experimental group. As defined in the operational definitions, application of the core value of excellence requires the “consistent use of current knowledge and theory while understanding individual limits; the integration of the patient/client perspective into practice; and aspirations to overcome mediocrity.”³ It may be postulated that the qualitative data reflecting an increased awareness

of the patient perspective may have influenced the change in mean values on this excellence item.

Both groups observed and noted that understanding the patient perspective is an important component of practice as reported in the focus groups and journal reflections. There was a trend for an increase in the mean scores on the excellence domain once entering the clinical environment in the comparison group but this did not approach significance. There was greater variability in the comparison group based upon the higher standard deviations on the PPTCVA excellence item which may have impacted these results. Research could not be identified that discussed student views on the impact of the patient perspective on physical therapy care and its relationship to excellence.

Research on the use of the PPTCVA as a tool to measure PT student self-assessments of professional behavior have shown that PPTCVA scores tend to increase when comparing an initial to a terminal clinical experience.¹²⁴ Although this research does suggest that the PPTCVA does show change over time between clinical experiences, it is unknown if the PPTCVA is responsive to changes that occur before and after an initial clinical experience. It may be postulated that the responsiveness of the PPTCVA may not be sufficient to identify small yet relevant changes in self-assessed professional behavior. This may have impacted the findings of this dissertation that did not identify a difference in most self-assessments items of the core values.

In a study by Hayward, a COP was utilized to introduce students to SP experiences.⁵⁴ As an assessment measure, the PPTCVA was completed before, after the SP experience, and after a subsequent clinical experience. All core values showed a statistically significant increase

immediately after the SP experience but then declined after the internship. The ratings after the clinical experience did not reach statistical significance with the exception of the altruism and social responsibility domains. These results should be interpreted with caution as multiple comparisons were made, parametric statistics were used, and it does not appear that a Bonferroni correction was applied. When examining the results of this dissertation, it is of note that the PPTCVA scores remained stable in this study for the experimental group without a decrease during the clinical experience. This may suggest that the frequencies of the core values in practice are maintained during the clinical experience in the experimental group despite the lack of statistical significance on these items.

The core value of accountability showed a trend toward significance between groups when comparing the post SP to mid clinical experience measures. The means of the comparison group actually tended to increase whereas the experimental group means decreased. It is unclear as to why this trend occurred between the groups. This is more in line with the research on core values presented by Hayward as discussed above.⁵⁴

It also should be considered that the core values may be more relevant to practicing clinicians as compared to students despite being included in the *Normative Model of Physical Therapist Professional Education*.¹² Students may not be sufficiently exposed to all of the domains of the PPTCVA during their education, especially earlier in the curriculum. Based upon this idea, the frequencies of reported behaviors by students may be lower simply based on lack of exposure. Research could not be identified that addressed this concern.

Internal Validity

Many of the threats to internal validity including selection bias were minimized by randomization of groups during the assignment process. History and maturation cannot be discounted during the data collection of the PBA and the PPTCVA based upon the duration between collection points. Instrumentation is not likely to be a concern as all subjects received identical testing procedures. However, testing effects are possible with the PBA and PPTCVA since these measures were completed at 3 time points. This was minimized by maintaining sufficient time frames of administration to avoid subjects remembering their prior answers. One must also consider that changes may have occurred in PBA or PPTCVA scores during student clinical experiences unrelated to the SP experiences. This was minimized by the use of a comparison group. There was a subject that dropped out of the study after randomization into groups had occurred. This subject did not complete any case scenarios and an intention to treat analysis was utilized to offset this attrition. Finally, regression to the mean was minimized by randomization.

External Validity

The use of a single DPT cohort from a single physical therapy program may limit the external validity of the study and thus the generalizability to other universities. However, this was minimized by the inclusion of a description of participant characteristics and a detailed description of the curriculum. It should be noted that the students completed their clinical experiences in diverse clinical settings in both U.S. and internationally based sites. One cannot discount the impact of factors such as patients with differing socioeconomic status, cultural customs, health literacy, language, and health care access on professional behaviors. In

addition to the clinical setting, one should consider that the participants were supervised by different CIs during their clinical experiences. Furthermore, the participants in this study were exposed to 2 clinical scenarios that involved outpatient cases and it is unknown if the results are generalizable to other settings.

Qualitative Data Analysis

Qualitative data suggests that the provision of SP rubric assessment with and without verbal feedback about professional behaviors was seen as a benefit by PT students. This finding is consistent with previous findings in the literature regarding PT student experience with SPs.^{68,71} However, there were different perceptions noted between the verbal feedback and no verbal feedback groups.

The themes of seeing through the patient's eyes and hearing an objective truth in a safe environment of SPs were consistently reported by both the verbal feedback and no verbal feedback group participants. Both groups perceived unbiased SP feedback was beneficial to their learning but the value of this feedback differed between groups based upon how the feedback was received. The theme of a promotion of self-efficacy of student performance was not observed in the no verbal feedback group.

Seeing Through the Patient's Eyes

A theme emerged from the focus groups and journal reflections that emphasized the patient perspective and human connectedness derived from the SP experience. This theme was apparent in both the feedback and no feedback groups. Participants identified the importance of developing a therapeutic alliance with patients in a professional manner. This realization may have impacted student interactions with future patients as they internalized components of

professional behavior, such as altruism, compassion, and communication. This trend continued during the student's clinical experiences as they observed the importance of empathy, understanding the psychological ramifications of the patient-clinician relationship, and approaching patients with an emic point of view. This emic point of view may have increased this participant's ability to see through the patient's eyes and widened their perspective in how the patient perceived their problems and connected them emotionally to these needs. These student perspectives suggest that there may have been changes in participant's emotional intelligence with these encounters.^{46,47}

The qualitative findings of this study refute some of the results of the Bosse study that analyzed communication of medical students using the Calgary-Cambridge domains.¹²⁸ The Bosse study did not identify differences in relationship building in students exposed to SPs. In this dissertation, student participants in both groups reported an improved awareness of the importance of developing relationships and connections with patients. On the other hand, in the Bosse study, there was an increase in understanding the patient perspective.¹²⁸ The findings in this dissertation align with the changes in understanding the patient perspective for both groups and are consistent with this theme in Bosse's work.¹²⁸

Hearing an Objective Truth in a Safe Environment

A common discussion point by the participants was the comparison of the SP experiences to their prior experiences in lab practical with faculty and in the part-time ICE model. The observations suggest that the utilization of SPs was a novel means of receiving feedback on professional behaviors for student participants in a safe environment. This appears to have enabled students to use prior knowledge and skill gained from lab practical and ICE in a

reflective manner. Based upon the concept of reflection-on-action, students may have compared and contrasted these prior learning experiences with feedback provided by SPs in both SP encounters. This suggests that there was a greater propensity toward reflection in action during the SP experiences and reflection-on-action immediately after the SP experiences.

In an article by Branch, the use of feedback as a teaching tool combined with reflection allows the integration of concepts and values from pre-existing knowledge in medical training.¹⁵⁴ Branch bases this idea on the works of Schön and Kolb.^{21,23,154} In a model advocated by Zimmerman, occupational therapy students were exposed to a curriculum that emphasizes combined reflection and feedback in the classroom with positive outcomes on performance.¹⁵⁵ Although this model was applied in the context of the classroom, there may be parallels to learning in the clinic. In this dissertation, participants were provided opportunities to reflect between the 2 SP case scenarios and by completion of the PBA and PPTCVA after the experience. The use of 2 SP case scenarios was seen as positive with the ability to apply feedback from the first scenario to the second.

The participants also reported that the lack of grading on the SP case scenarios was beneficial and non-threatening as compared to testing situations, such as lab practical. This was seen as an asset to learning as the feedback was more constructive and honest with delivery in a more authentic environment. Research on medical students suggest that learning in a safe simulated environment resulted in deep learning experiences.¹⁵⁶ This study included the provision of constructive, immediate feedback as a means of preparing students for learning challenges and suggests an improved ability to overcome such challenges.¹⁵⁶

How Feedback is Received Matters

If one examines the qualitative themes as a whole, SP experiences appear to be a positive means of incorporating feedback on professional behaviors based upon the student perspective. The qualitative observations suggest that the verbal feedback group found this experience to be of particular value in preparing for their clinical experiences. Although positive comments were also noted in the no verbal feedback group, these participants noted their personal experiences might have been different if they received verbal feedback. It appears from the focus group responses, that the no verbal feedback group was unaware of the feedback differences between groups, thus minimizing any social threats to validity. In addition, this information from the no feedback group regarding the type of feedback was not solicited by the researcher.

Although participants in both groups appreciated the usefulness of the immediate constructive criticism, the no verbal feedback group consistently observed that understanding the opinion of the SP and why they received certain scores on the rubric would have enhanced the experience. As noted with prior research on feedback by Frye, two way communication and learner centered feedback may be beneficial for student learning.¹²⁵ The provision of verbal feedback may potentially have provided a more learner centered approach.

Verbal Feedback Promotes Student Self-Efficacy of Professional Behaviors

The final theme identified by students was the impact of the SP experiences on their self-efficacy of professional behaviors. At each time point after the SP experiences, verbal feedback group participants reported an increase in their capabilities in interacting with patients. Participants described the value of facing the unknown as they were challenged by the

SPs. The SP experiences reinforced prior learning and enabled them to focus on what they needed to improve. These unique challenges may have translated to an increase in confidence of capabilities so that they could interact with patients and meet similar challenges in patient care. This was apparent by participants reporting increased capabilities in interviewing, patient interaction, and application of knowledge acquired in the curriculum. Importantly, this confidence in capabilities continued to be reported by participants once they began their clinical experiences. This may have translated to an overall improved ability to reflect in action once initiating their clinical experience. Prior research was not identified that examined the impact of 1:1 SP experiences on self-efficacy of professional behaviors in PT students during a clinical experience.

In research with nursing and medical students, participants were exposed to SP experiences in small groups.^{151,157} Feedback was provided by faculty members during these encounters. The students reported decreased anxiety and increased confidence after the SP interactions. It is unknown if this confidence continued once the participants entered the clinical environment and if a true change in self-efficacy was observed. In this dissertation study, only the verbal feedback group consistently relayed an increase in confidence of capabilities and this continued during their clinical experiences.

The quantitative findings of this study align with findings by Lewis who studied pairs of PT students who interacted with SPs.⁷⁰ Lewis examined student self-perceived confidence and anxiety levels after SP experiences prior to clinical internships in the United Kingdom.⁷⁰ In Lewis' study, student participants received SP feedback on performance on a checklist with reports of improved confidence and decreased anxiety for interacting with patients after the SP

encounters. It is unclear if confidence and anxiety levels were impacted in the subsequent clinical internship as this was not studied in the Lewis study.⁷⁰ It is also unknown if this translated to an improvement in self-efficacy.

In qualitative research completed with occupational therapy students exposed to real pediatric patients in a school based setting, two themes suggested an increase in self-efficacy and professional growth and development after the experiences.²⁴ Although these were real patients as compared to SPs, it is of note that more realistic experiences resulted in improved self-efficacy. This aligns with the findings of this dissertation.

In this dissertation, only 1 student in the no verbal feedback group reported an increase in self-confidence immediately after the SP experience and no changes in confidence were relayed by this participant during their clinical experience. In general, the no verbal feedback group participants reported a general improvement in their view of their self-esteem but not self-efficacy. This finding does not align with prior research in which students reported increased confidence using a rubric alone.⁷⁰ It is unclear why student perceptions differed for those that received verbal feedback. Theoretically, the authentic experiences with honest verbal feedback in a realistic environment may have had a differential effect in how feedback was received between groups. Research on feedback provided to PT students in the clinic suggests that feedback involving a reciprocal discussion between the CI and student may be most effective.^{63,99} It may be postulated that the verbal feedback discussions allowed these participants to internalize feedback more effectively.

Implications for Educational Practices

The broad construct of professionalism is difficult to clearly define within the field of physical therapy. Prior research has suggested that students are less likely to receive explicit feedback on affective behaviors from both academic and clinical faculty members.^{8,11,14} This highlights the importance of developing methods of fostering behaviors that are considered appropriate in a professional environment. Feedback from SPs may be considered a tool for providing students with information about their performance in the affective domain.¹⁵⁸

In this study, SPs were interviewed by PT student participants and students received immediate feedback after the encounter. The type of feedback varied between intervention groups as a means of examining the impact of SP feedback on student learning. The approach of utilizing different forms of feedback using a 1:1 SP student model was developed as a way of studying the effectiveness of SP feedback experiences as an instructional method. It was a novel approach to the use of SP feedback on professional behaviors as it attempted to highlight multiple domains of behavior as compared to many prior studies that concentrated solely on communication. Although the quantitative results were not significant with the exception of excellence in the experimental group, there were important trends suggesting that participants in the experimental group rated themselves higher on the domains of problem solving, professionalism, and stress management as compared to the comparison group. This could have important educational implications in favor of the use of verbal SP feedback after SP case scenarios. This may be related to the experimental group participant perspectives that the experiences improved their self-efficacy.

The use of SP experiences combined with feedback incorporates components of adult learning theory and social theories of behavioral change. First, participants were afforded with opportunities to use all modes of Kolb's experiential learning theory. The concrete experience was provided during the first SP case encounter during the actual simulation experience. Next, the students were provided SP feedback and given an opportunity to contemplate on what occurred during the first case as in reflective observation. During this time, participants could analyze what happened and use this information in an abstract conceptualization to apply to the second case. Finally, they were allowed to actively experiment during their second SP case scenario experiences. As described by Milanese, PT students tend to prefer this mode of learning during clinical experiences.¹⁰⁹ As a mode of Kolb's learning styles, active experimentation involves learning by doing and SP case scenarios allow participants to practice their medical interview skills and incorporate appropriate professional behaviors into these interactions. The participants did report that the SP experiences and feedback were novel in relation to other forms of learning and this may be related to their ability to practice independently without peer or faculty guidance during that SP experience.

Second, participants were exposed to learning in context during the SP encounters. Standardized patients are trained to objectively portray patient cases in a genuine manner. Participants reported that these SP encounters were realistic and of value in preparing for clinical experiences. Participant professional behaviors were challenged by the SPs during these case scenarios to create ambiguous conditions that mimic the true clinical environment as in situated cognition. As discussed by Collins, situated cognition takes abstract concepts and makes them more concrete as it is "situated in the real world".¹¹² In addition, SP feedback was

provided between the 2 case scenarios so that the SPs provided coaching on their performance. This coaching was provided as a teaching strategy that supported verbal feedback participants in their learning and allowed reflection after the first case scenario to assist students in learning to generalize to other contexts.^{112,113} It appears that the authenticity of the actual SP experience was similar between groups. However, it is less clear if the lack of coaching by the SPs with the no verbal feedback group could have had a different effect on their learning. This could potentially be related to the more honest, detailed feedback provided to the verbal feedback group. The no verbal feedback group consistently reported that understanding why they received certain scores on the rubric would have been beneficial.

Third, Schön's reflection was incorporated by the use of the SP challenges and self-reflective activities. The SP challenges were designed to encourage participants to reflect on their action as it was occurring. Participants needed to adapt their patient approach during these behavioral challenges. In addition, the use of the PBA and PPTCVA during this experience encouraged self-reflection on performance by the participants.

Finally, as described by Bandura, perceived self-efficacy is influenced by both behavior observation and actual applied practice of the behavior. In the traditional educational model, PT students learn professional behaviors from prior life experiences and modeled behaviors from academic and clinical faculty, other health care professionals, and their peers.¹⁵⁹ In these cases, this observed learning method is implicit and social learning theory suggests that this is how new behaviors are learned in unambiguous situations. These initial patterns learned observationally are refined by feedback on performance and subsequent self-adjustment.¹¹⁶

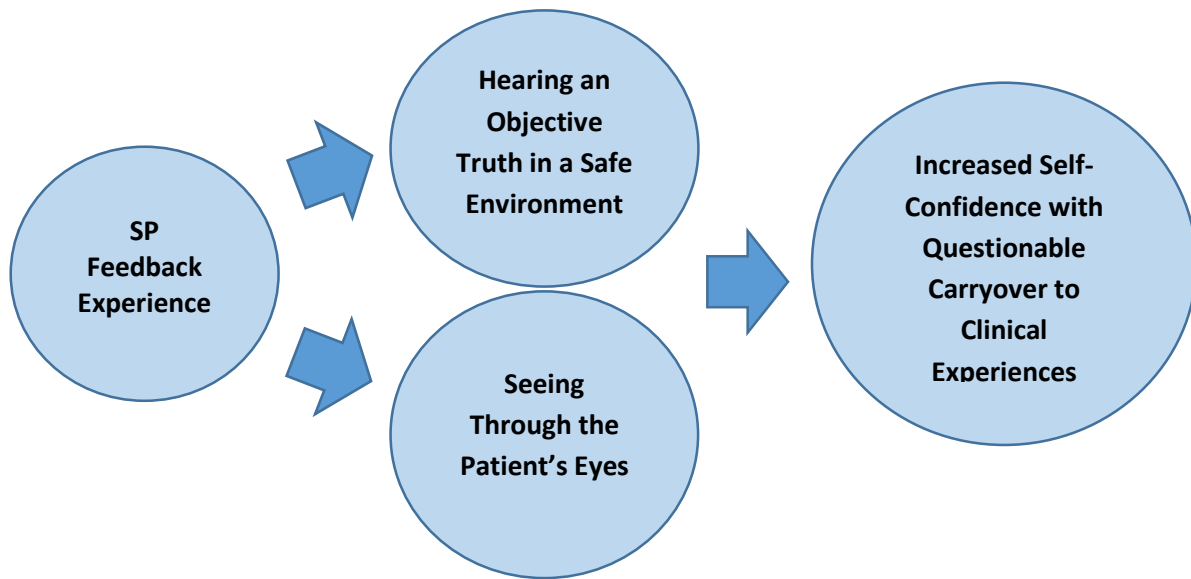
More challenging and varied experiences are encountered in clinical settings, suggesting that pure observational learning may not be sufficient for professional behaviors. Based on this premise, the use of SPs and verbal feedback may be an effective means of improving student's self-efficacy of professional behaviors before they enter the clinical environment. Feedback provided by SPs is explicit and is based on actual applied practice. Theoretically, this may be internalized more effectively as suggested by the qualitative findings of this study for the SP verbal feedback group participants.

Correlational research with physician assistant students has suggested that clinical performance is more associated with noncognitive variables including self-efficacy.¹⁶⁰ Cognitive factors such as GPA were not as strongly correlated with performance. In this prior correlational research, clinical performance was measured on a scale by a clinical preceptor during internships. Since that research was solely correlational in nature, one may not suggest a cause effect relationship between these variables. However, it does suggest that variables such as self-efficacy may potentially be associated with improved clinical performance including professional behaviors in other health care professionals.

It also appears that participants in both the verbal and no verbal feedback groups learned and internalized professional behaviors from a combination of pre-internship experiences, full-time clinical experiences, and SP experiences.¹⁵⁹ It is of note that the complex domains of professional behaviors are impacted by a variety of factors and it appears that explicit verbal feedback ensuring experiential learning may be an effective means of facilitating professional behavior development.

The SP experiences were perceived by both groups as having provided feedback in a safe, objective environment and an awareness of seeing through the patient's eyes. Although the no verbal feedback group relayed a benefit to the SP feedback experiences, this did not align with a change in their self-efficacy. The no verbal feedback participants relayed an increase in self-confidence with a questionable carryover of this confidence to the clinical experience as depicted in Figure 1. Self-confidence relates to changes in self-esteem whereas self-efficacy aligns with changes in capabilities which may result in a greater propensity to apply learned behaviors to practice.

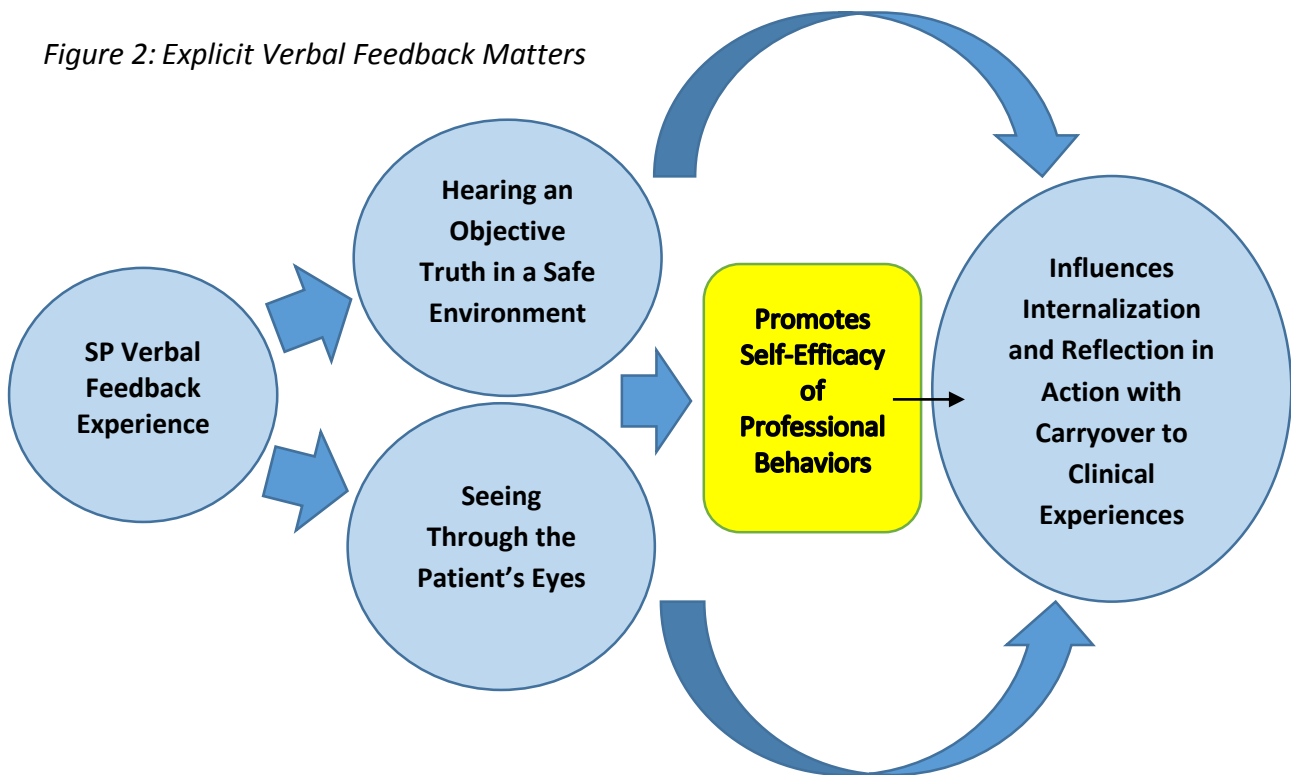
Figure 1: Self-Confidence Development with SP Experiences Without Explicit Feedback



In the group that received verbal feedback, the student perspectives differed in terms of how the feedback was received and the level of self-efficacy of professional behaviors after the experience. (Figure 2) Theoretically, this may have had a different impact on their ability to reflect in action to other contexts and internalize professional behaviors as compared to the group that did not receive verbal feedback. Bloom's learning taxonomy stresses the idea that

the development of internal control or internalization is key to changing behavior.¹⁰³ Values or attitudes in the affective domain are influenced by implicit modeling by faculty or CIs, an individual's upbringing, and prior academic and clinical experiences.¹¹⁶ The SP experiences were designed to assist in student development of professional behaviors and to build upon these previously learned behaviors using explicit means. It may be postulated that the participant's perceptions of increased self-efficacy after the SP verbal feedback experience fostered their perceived abilities to interact with patients and there was carryover of learning to the context of the clinical environment.

Figure 2: Explicit Verbal Feedback Matters



Overall, it appears that participants in the verbal feedback group increased self-efficacy of professional behaviors in certain skills and those translated to improvements in their perceived capabilities in different contexts during their clinical experiences. These capabilities included interviewing skills, interacting with patients, and an increased ability to translate prior

academic knowledge during clinical experiences. This may have important implications in student capabilities to change behaviors and successfully develop their professional behaviors. Theoretically, these capabilities may allow increased responsiveness to varying challenges to professional behaviors as they enter the complex clinical environment.

Limitations and Delimitations

There are several limitations and delimitations of note in this dissertation. Limitations included potential inconsistencies in the provision of SP feedback, potential inconsistencies in standardization of SP case scenarios, and the lack of established intrarater reliability for the PBA and PPTCVA outcome measures. Other limitations included the timing of clinical experiences differing between students, potential influences of the clinical experience environment on student perspectives, and the sample size. A significant delimitation was the ability to transfer findings to other student programs and patient populations.

A limitation of this study was the small sample size. The primary researcher initially recruited student participants without any incentives and 13 students volunteered to participate. A second recruitment attempt was made to include a small monetary incentive and no additional individuals agreed to participate. Additional students from alternate PT programs were not recruited based upon the variability of curricula between the local programs. In addition, there were no local university student groups that met all inclusion criteria for this study. It also must be noted that one participant did not complete the case scenarios leaving a sample of 12 students. An intention to treat analysis was utilized and the student's initial PBA and PPTCVA scores were carried forward to the other data collection time points.

Second, the accuracy of SP feedback and standardization of case scenarios may be potential drawbacks. The potential existed for SPs to provide inaccurate assessments of students which may have overinflated or under-inflated the student's actual performance. This was minimized by explicit training of the SPs prior to the standardized case scenarios on the use of the MSPSQ, accurate portrayal of the standardized cases, and instruction on how to provide verbal feedback to the experimental group. Each SP was responsible for portraying either case A or case B and trained only in a single case for 2 hours. This resulted in only 2 SPs assigned to each case to assist in minimizing variability of the case portrayals. During training, the SPs were also provided instruction on how to provide constructive feedback that included a written template. The 4 SPs were trained for 2 hours on the use of the MSPSQ during the pilot study. The SPs were unable to attend the training on MSPSQ on the same day due to scheduling issues and 2 separate trainings were offered. It cannot be discounted that there was variability in the trainings between these 2 sessions. This may have been minimized by videotaping of the SP encounter trainings to assess consistency of SP case portrayal and accuracy of feedback provided.

Third, the intrarater reliability and responsiveness to change of the PBA and PPTCVA has not been established. As self-report measures that lack demonstrated responsiveness, it cannot be discounted that self-assessments using the PBA and PPTCVA were not responsive to change in subjects. Changes in the PBA and PPTCVA between time points may potentially be the result of measurement error alone.

A fourth limitation of this study was the timing of the clinical experiences for the students. Ten of the students began their 10 week clinical experience within 6 weeks of the SP

case scenarios at clinical sites based in the United States. Two of the 12 students did not start their clinical experience until 12 weeks after the case scenarios at an international clinical site. These 2 students also only completed an 8 week clinical experience. This was unknown to the primary investigator at the outset of the study. This limitation was minimized by administering the final PBA and PPTCVA measures at the end of the third week of internship for all participants. The data was also analyzed with and without these participants who completed an international clinical experience as a means of examining differences between these participants and the remainder of the sample.

The fifth limitation may be related to the potential differences in clinical experiences between students and the resultant impact on their perspectives. The type of clinical experience was variable between the participants. There were 6 participants who completed their experience in outpatient clinics and 3 participants in acute/sub-acute settings in wide geographic regions in the United States. Two participants participated in an international clinical experience in Belize. This international rotation combined outpatient and home care in a pro bono clinic. One cannot discount the variability in clinical setting, geographic location, and different CIs as having a potential impact on professional behaviors once participants began their clinical experience. The resultant variability may have resulted in differential changes in student professional behaviors and attitudes based upon the clinical environment as compared to the SP feedback. This was minimized by the use of a comparison group in the study design.

Finally, it cannot be discounted that the difficulty in the case scenarios may have been variable. In examining the trends between case A and case B, there was a trend for lower scores

on case B. As the case scenarios were randomized, this may have impacted the results of the MSPSQ analyses and true differences may have existed.

A delimitation of this study may lie in the transferability or generalizability of the results to students in other DPT programs. This is addressed by inclusion of descriptive data on the participants as well as a detailed description of the DPT program curriculum and philosophy. It should be noted that the sample was homogeneous with subjects similar in the majority of variables limiting the ability to generalize to students with different demographics. It is also important to identify that the curricula of DPT programs is quite variable and the ability to generalize to other programs is somewhat limited. The ability to generalize to other clinical settings and patient populations should be considered as only outpatient case scenarios were completed. Therefore, it is unknown if these results can be generalized to other settings and patient populations.

Recommendations for Future Research

Future research may be useful to study the use of SP rubric feedback, SP verbal feedback, or no feedback on student professional behavior with a larger sample size. The use of a crossover design may be used to introduce students to different types of feedback and to determine the effectiveness of the feedback to impact professional behaviors. This would allow an analysis of this educational strategy in an ethical manner using subjects as their own controls. Although this study utilized a comparison group, the use of a control group may be considered a stronger research design.

Further qualitative research on student perspectives and survey research may assist in clarifying the role of verbal feedback in relation to self-efficacy. It would be beneficial to

examine student perspectives at the completion of a clinical experience to determine if this differential effect was maintained long-term.

Research may also be beneficial to examine CI or faculty assessment of student professional behaviors after SP feedback experiences as compared to student self-assessments of their behaviors. It is unknown if faculty or CI assessments may differ from student perspectives and self-assessments of professional behavior. Although student perspectives are important, a more broad view of professional behaviors by multiple stakeholders may be appropriate.

Conclusions

This preliminary study suggests trends toward increased professional behaviors and increased self-efficacy for professional behaviors in clinical practice in the experimental/verbal feedback group. These findings could have important implications on the development of professional behaviors in PT students. The use of SP experiences appeared to be a novel method of providing feedback on professional behaviors to student participants regardless of intervention group in a safe environment. The observation that the SP experiences impacted student perceptions on understanding the patient perspective may be suggestive of internalization of professional behaviors into patient interactions. Although the feedback and no feedback groups had different perceptions regarding the value of the SP experience, both noted an overall positive experience from their interaction with the SPs.

It should be noted that the qualitative findings do not support the premise that verbal feedback may have been more beneficial than rubric assessment alone. It is unclear if these changes are related to the actual feedback provided, the SP experiences alone, or a

combination of the 2. Overall, the qualitative data from the participants is suggestive that the feedback was beneficial from the student perspective with differing perceptions between the experimental and comparison groups. Academic programs may consider these findings and consider the implementation of explicit verbal feedback using SP experiences to promote professional behavior development in PT students.

APPENDICES

Appendix 1: Modified Standardized Satisfaction Questionnaire

Modified Standardized Patient Satisfaction Questionnaire Please rate the student for each question by choosing a number from 1 to 5. 1=poor 2=fair 3=good 4=very good 5=excellent	
1. Being upfront and candid to the patient.	1 2 3 4 5
2. Introducing themselves; greeting the patient warmly; being friendly; never rude.	1 2 3 4 5
3. Maintaining eye contact and demonstrating respectful body language.	1 2 3 4 5
4. Treating the patient like they are on the same level, never talking down to the patient.	1 2 3 4 5
5. Letting the patient tell their story; listening carefully, not interrupting the patient while they are talking.	1 2 3 4 5
6. Showing interest in the patient as a person; asking thoughtful questions; not acting bored or ignoring what the patient has to say.	1 2 3 4 5
7. Discussing options with the patient, asking the patient's opinion, and offering choices.	1 2 3 4 5
8. Encouraging the patient to ask questions, answering patient questions clearly, never avoiding patient questions or lecturing them.	1 2 3 4 5
9. Explaining the specifics of the patient's problems – how and why they occurred and what to expect next.	1 2 3 4 5
10. Using words the patient can understand when explaining their problems and treatment, explaining any technical medical terms in plain language.	1 2 3 4 5
11. Acknowledging the patient's feelings about their problems and the impact of the patient's problems on their life.	1 2 3 4 5
12. The interview flow made sense and the questions followed logically.	1 2 3 4 5
13. The student remained calm when the patient challenged him or her.	1 2 3 4 5
14. Thinking of the entire encounter, please rate the student on professional behavior.	1 2 3 4 5
15. Aggregate Score	_____/70

Appendix 2: Professional Behaviors Assessment

Professional Behaviors for the 21st Century 2009-2010

Definitions of Behavioral Criteria Levels

Beginning Level – behaviors consistent with a learner in the beginning of the professional phase of physical therapy education and before the first significant internship

Intermediate Level – behaviors consistent with a learner after the first significant internship

Entry Level – behaviors consistent with a learner who has completed all didactic work and is able to independently manage a caseload with consultation as needed from clinical instructors, co-workers and other health care professionals

Post-Entry Level – behaviors consistent with an autonomous practitioner beyond entry level

Background Information

In 1991 the faculty of the University of Wisconsin-Madison, Physical Therapy Educational Program identified the original Physical Therapy - Specific *Generic Abilities*. Since that time these abilities have been used by academic programs to facilitate the development, measurement and assessment of professional behaviors of students during both the didactic and clinical phases of the programs of study.

Since the initial study was conducted, the profession of Physical Therapy and the curricula of the educational programs have undergone significant changes that mirror the changes in healthcare and the academy. These changes include managed care, expansion in the scope of physical therapist practice, increased patient direct access to physical therapists, evidenced-based practice, clinical specialization in physical therapy and the American Physical Therapy Association's Vision 2020 supporting doctors of physical therapy.

Today's physical therapy practitioner functions on a more autonomous level in the delivery of patient care which places a higher demand for professional development on the new graduates of the physical therapy educational programs. Most recently (2008-2009), the research team of Warren May, PT, MPH, Laurie Kontney PT, DPT, MS and Z. Annette Iglarsh, PT, PhD, MBA completed a research project that built on the work of other researchers to analyze the PT-Specific *Generic Abilities* in relation to the changing landscape of physical therapist practice and in relation to generational differences of the "Millennial" or "Y" Generation (born 1980-2000). These are the graduates of the classes of 2004 and beyond who will shape clinical practice in the 21st century.

The research project was twofold and consisted of 1) a research survey which identified and rank ordered professional behaviors expected of the newly licensed physical therapist upon employment (2008); and 2) 10 small work groups that took the 10 identified behaviors (statistically determined) and wrote/revised behavior definitions, behavioral criteria and placement within developmental levels (Beginning, Intermediate, Entry Level and Post Entry Level) (2009). Interestingly the 10 statistically significant behaviors identified were identical to the original 10 *Generic Abilities*, however, the rank orders of the behaviors changed. Participants in the research survey included Center Coordinators of Clinical Education (CCCE's) and Clinical Instructors (CI's) from all regions of the United States. Participants in the small work groups included Directors of Clinical Education (DCE's), Academic Faculty, CCCE's and CI's from all regions of the United States.

This resulting document, **Professional Behaviors**, is the culmination of this research project. The definitions of each professional behavior have been revised along with the behavioral criteria for each developmental level. The 'developing level' was changed to the 'intermediate level' and the title of the document has been changed from *Generic Abilities* to **Professional Behaviors**. The title of this important document was changed to differentiate it from the original *Generic Abilities* and to better reflect the intent of assessing professional behaviors deemed critical for professional growth and development in physical therapy education and practice.

Professional Behaviors

1. **Critical Thinking** - The ability to question logically; identify, generate and evaluate elements of logical argument; recognize and differentiate facts, appropriate or faulty inferences, and assumptions; and distinguish relevant from irrelevant information. The ability to appropriately utilize, analyze, and critically evaluate scientific evidence to develop a logical argument, and to identify and determine the impact of bias on the decision making process.

Beginning Level:

- ❖ Raises relevant questions
- ❖ Considers all available information
- ❖ Articulates ideas
- ❖ Understands the scientific method
- ❖ States the results of scientific literature but has not developed the consistent ability to critically appraise findings (i.e. methodology and conclusion)
- ❖ Recognizes holes in knowledge base
- ❖ Demonstrates acceptance of limited knowledge and experience

Intermediate Level:

- ❖ Feels challenged to examine ideas
- ❖ Critically analyzes the literature and applies it to patient management
- ❖ Utilizes didactic knowledge, research evidence, and clinical experience to formulate new ideas
- ❖ Seeks alternative ideas
- ❖ Formulates alternative hypotheses
- ❖ Critiques hypotheses and ideas at a level consistent with knowledge base
- ❖ Acknowledges presence of contradictions

Entry Level:

- ❖ Distinguishes relevant from irrelevant patient data
- ❖ Readily formulates and critiques alternative hypotheses and ideas
- ❖ Infers applicability of information across populations
- ❖ Exhibits openness to contradictory ideas
- ❖ Identifies appropriate measures and determines effectiveness of applied solutions efficiently
- ❖ Justifies solutions selected

Post-Entry Level:

- ❖ Develops new knowledge through research, professional writing and/or professional presentations
- ❖ Thoroughly critiques hypotheses and ideas often crossing disciplines in thought process
- ❖ Weighs information value based on source and level of evidence
- ❖ Identifies complex patterns of associations
- ❖ Distinguishes when to think intuitively vs. analytically
- ❖ Recognizes own biases and suspends judgmental thinking
- ❖ Challenges others to think critically

2. **Communication** - The ability to communicate effectively (i.e. verbal, non-verbal, reading, writing, and listening) for varied audiences and purposes.

Beginning Level:

- ❖ Demonstrates understanding of the English language (verbal and written): uses correct grammar, accurate spelling and expression, legible handwriting
- ❖ Recognizes impact of non-verbal communication in self and others
- ❖ Recognizes the verbal and non-verbal characteristics that portray confidence
- ❖ Utilizes electronic communication appropriately

Intermediate Level:

- ❖ Utilizes and modifies communication (verbal, non-verbal, written and electronic) to meet the needs of different audiences
- ❖ Restates, reflects and clarifies message(s)
- ❖ Communicates collaboratively with both individuals and groups
- ❖ Collects necessary information from all pertinent individuals in the patient/client management process
- ❖ Provides effective education (verbal, non-verbal, written and electronic)

Entry Level:

- ❖ Demonstrates the ability to maintain appropriate control of the communication exchange with individuals and groups
- ❖ Presents persuasive and explanatory verbal, written or electronic messages with logical organization and sequencing
- ❖ Maintains open and constructive communication
- ❖ Utilizes communication technology effectively and efficiently

Post Entry Level:

- ❖ Adapts messages to address needs, expectations, and prior knowledge of the audience to maximize learning
- ❖ Effectively delivers messages capable of influencing patients, the community and society
- ❖ Provides education locally, regionally and/or nationally
- ❖ Mediates conflict

3. **Problem Solving** – The ability to recognize and define problems, analyze data, develop and implement solutions, and evaluate outcomes.

Beginning Level:

- ❖ Recognizes problems
- ❖ States problems clearly
- ❖ Describes known solutions to problems
- ❖ Identifies resources needed to develop solutions
- ❖ Uses technology to search for and locate resources
- ❖ Identifies possible solutions and probable outcomes

Intermediate Level:

- ❖ Prioritizes problems
- ❖ Identifies contributors to problems
- ❖ Consults with others to clarify problems
- ❖ Appropriately seeks input or guidance
- ❖ Prioritizes resources (analysis and critique of resources)
- ❖ Considers consequences of possible solutions

Entry Level:

- ❖ Independently locates, prioritizes and uses resources to solve problems
- ❖ Accepts responsibility for implementing solutions
- ❖ Implements solutions
- ❖ Reassesses solutions
- ❖ Evaluates outcomes
- ❖ Modifies solutions based on the outcome and current evidence
- ❖ Evaluates generalizability of current evidence to a particular problem

Post Entry Level:

- ❖ Weighs advantages and disadvantages of a solution to a problem
- ❖ Participates in outcome studies
- ❖ Participates in formal quality assessment in work environment
- ❖ Seeks solutions to community health-related problems
- ❖ Considers second and third order effects of solutions chosen

4. **Interpersonal Skills** – The ability to interact effectively with patients, families, colleagues, other health care professionals, and the community in a culturally aware manner.

Beginning Level:

- ❖ Maintains professional demeanor in all interactions
- ❖ Demonstrates interest in patients as individuals
- ❖ Communicates with others in a respectful and confident manner
- ❖ Respects differences in personality, lifestyle and learning styles during interactions with all persons
- ❖ Maintains confidentiality in all interactions
- ❖ Recognizes the emotions and bias that one brings to all professional interactions

Intermediate Level:

- ❖ Recognizes the non-verbal communication and emotions that others bring to professional interactions
- ❖ Establishes trust
- ❖ Seeks to gain input from others
- ❖ Respects role of others
- ❖ Accommodates differences in learning styles as appropriate

Entry Level:

- ❖ Demonstrates active listening skills and reflects back to original concern to determine course of action
- ❖ Responds effectively to unexpected situations
- ❖ Demonstrates ability to build partnerships
- ❖ Applies conflict management strategies when dealing with challenging interactions
- ❖ Recognizes the impact of non-verbal communication and emotional responses during interactions and modifies own behaviors based on them

Post Entry Level:

- ❖ Establishes mentor relationships
- ❖ Recognizes the impact that non-verbal communication and the emotions of self and others have during interactions and demonstrates the ability to modify the behaviors of self and others during the interaction

5. **Responsibility** – The ability to be accountable for the outcomes of personal and professional actions and to follow through on commitments that encompass the profession within the scope of work, community and social responsibilities.

Beginning Level:

- ❖ Demonstrates punctuality
- ❖ Provides a safe and secure environment for patients
- ❖ Assumes responsibility for actions
- ❖ Follows through on commitments
- ❖ Articulates limitations and readiness to learn
- ❖ Abides by all policies of academic program and clinical facility

Intermediate Level:

- ❖ Displays awareness of and sensitivity to diverse populations
- ❖ Completes projects without prompting
- ❖ Delegates tasks as needed
- ❖ Collaborates with team members, patients and families
- ❖ Provides evidence-based patient care

Entry Level:

- ❖ Educates patients as consumers of health care services
- ❖ Encourages patient accountability
- ❖ Directs patients to other health care professionals as needed
- ❖ Acts as a patient advocate
- ❖ Promotes evidence-based practice in health care settings
- ❖ Accepts responsibility for implementing solutions
- ❖ Demonstrates accountability for all decisions and behaviors in academic and clinical settings

Post Entry Level:

- ❖ Recognizes role as a leader
- ❖ Encourages and displays leadership
- ❖ Facilitates program development and modification
- ❖ Promotes clinical training for students and coworkers
- ❖ Monitors and adapts to changes in the health care system
- ❖ Promotes service to the community

6. **Professionalism** – The ability to exhibit appropriate professional conduct and to represent the profession effectively while promoting the growth/development of the Physical Therapy profession.

Beginning Level:

- ❖ Abides by all aspects of the academic program honor code and the APTA Code of Ethics
- ❖ Demonstrates awareness of state licensure regulations
- ❖ Projects professional image
- ❖ Attends professional meetings
- ❖ Demonstrates cultural/generational awareness, ethical values, respect, and continuous regard for all classmates, academic and clinical faculty/staff, patients, families, and other healthcare providers

Intermediate Level:

- ❖ Identifies positive professional role models within the academic and clinical settings
- ❖ Acts on moral commitment during all academic and clinical activities
- ❖ Identifies when the input of classmates, co-workers and other healthcare professionals will result in optimal outcome and acts accordingly to attain such input and share decision making
- ❖ Discusses societal expectations of the profession

Entry Level:

- ❖ Demonstrates understanding of scope of practice as evidenced by treatment of patients within scope of practice, referring to other healthcare professionals as necessary
- ❖ Provides patient/family centered care at all times as evidenced by provision of patient/family education, seeking patient input and informed consent for all aspects of care and maintenance of patient dignity
- ❖ Seeks excellence in professional practice by participation in professional organizations and attendance at sessions or participation in activities that further education/professional development
- ❖ Utilizes evidence to guide clinical decision making and the provision of patient care, following guidelines for best practices
- ❖ Discusses role of physical therapy within the healthcare system and in population health
- ❖ Demonstrates leadership in collaboration with both individuals and groups

Post Entry Level:

- ❖ Actively promotes and advocates for the profession
- ❖ Pursues leadership roles
- ❖ Supports research
- ❖ Participates in program development
- ❖ Participates in education of the community
- ❖ Demonstrates the ability to practice effectively in multiple settings
- ❖ Acts as a clinical instructor
- ❖ Advocates for the patient, the community and society

7. **Use of Constructive Feedback** – The ability to seek out and identify quality sources of feedback, reflect on and integrate the feedback, and provide meaningful feedback to others.

Beginning Level:

- ❖ Demonstrates active listening skills
- ❖ Assesses own performance
- ❖ Actively seeks feedback from appropriate sources
- ❖ Demonstrates receptive behavior and positive attitude toward feedback
- ❖ Incorporates specific feedback into behaviors
- ❖ Maintains two-way communication without defensiveness

Intermediate Level:

- ❖ Critiques own performance accurately
- ❖ Responds effectively to constructive feedback
- ❖ Utilizes feedback when establishing professional and patient related goals
- ❖ Develops and implements a plan of action in response to feedback
- ❖ Provides constructive and timely feedback

Entry Level:

- ❖ Independently engages in a continual process of self evaluation of skills, knowledge and abilities
- ❖ Seeks feedback from patients/clients and peers/mentors
- ❖ Readily integrates feedback provided from a variety of sources to improve skills, knowledge and abilities
- ❖ Uses multiple approaches when responding to feedback
- ❖ Reconciles differences with sensitivity
- ❖ Modifies feedback given to patients/clients according to their learning styles

Post Entry Level:

- ❖ Engages in non-judgmental, constructive problem-solving discussions
- ❖ Acts as conduit for feedback between multiple sources
- ❖ Seeks feedback from a variety of sources to include students/supervisees/peers/supervisors/patients
- ❖ Utilizes feedback when analyzing and updating professional goals

8. **Effective Use of Time and Resources** – The ability to manage time and resources effectively to obtain the maximum possible benefit.

Beginning Level:

- ❖ Comes prepared for the day's activities/responsibilities
- ❖ Identifies resource limitations (i.e. information, time, experience)
- ❖ Determines when and how much help/assistance is needed
- ❖ Accesses current evidence in a timely manner
- ❖ Verbalizes productivity standards and identifies barriers to meeting productivity standards
- ❖ Self-identifies and initiates learning opportunities during unscheduled time

Intermediate Level:

- ❖ Utilizes effective methods of searching for evidence for practice decisions
- ❖ Recognizes own resource contributions
- ❖ Shares knowledge and collaborates with staff to utilize best current evidence
- ❖ Discusses and implements strategies for meeting productivity standards
- ❖ Identifies need for and seeks referrals to other disciplines

Entry Level:

- ❖ Uses current best evidence
- ❖ Collaborates with members of the team to maximize the impact of treatment available
- ❖ Has the ability to set boundaries, negotiate, compromise, and set realistic expectations
- ❖ Gathers data and effectively interprets and assimilates the data to determine plan of care
- ❖ Utilizes community resources in discharge planning
- ❖ Adjusts plans, schedule etc. as patient needs and circumstances dictate
- ❖ Meets productivity standards of facility while providing quality care and completing non-productive work activities

Post Entry Level:

- ❖ Advances profession by contributing to the body of knowledge (outcomes, case studies, etc)
- ❖ Applies best evidence considering available resources and constraints
- ❖ Organizes and prioritizes effectively
- ❖ Prioritizes multiple demands and situations that arise on a given day
- ❖ Mentors peers and supervisees in increasing productivity and/or effectiveness without decrement in quality of care

9. **Stress Management** – The ability to identify sources of stress and to develop and implement effective coping behaviors; this applies for interactions for: self, patient/clients and their families, members of the health care team and in work/life scenarios.

Beginning Level:

- ❖ Recognizes own stressors
- ❖ Recognizes distress or problems in others
- ❖ Seeks assistance as needed
- ❖ Maintains professional demeanor in all situations

Intermediate Level:

- ❖ Actively employs stress management techniques
- ❖ Reconciles inconsistencies in the educational process
- ❖ Maintains balance between professional and personal life
- ❖ Accepts constructive feedback and clarifies expectations
- ❖ Establishes outlets to cope with stressors

Entry Level:

- ❖ Demonstrates appropriate affective responses in all situations
- ❖ Responds calmly to urgent situations with reflection and debriefing as needed
- ❖ Prioritizes multiple commitments
- ❖ Reconciles inconsistencies within professional, personal and work/life environments
- ❖ Demonstrates ability to defuse potential stressors with self and others

Post Entry Level:

- ❖ Recognizes when problems are unsolvable
- ❖ Assists others in recognizing and managing stressors
- ❖ Demonstrates preventative approach to stress management
- ❖ Establishes support networks for self and others
- ❖ Offers solutions to the reduction of stress
- ❖ Models work/life balance through health/wellness behaviors in professional and personal life

10. Commitment to Learning – The ability to self direct learning to include the identification of needs and sources of learning; and to continually seek and apply new knowledge, behaviors, and skills.

Beginning Level:

- ❖ Prioritizes information needs
- ❖ Analyzes and subdivides large questions into components
- ❖ Identifies own learning needs based on previous experiences
- ❖ Welcomes and/or seeks new learning opportunities
- ❖ Seeks out professional literature
- ❖ Plans and presents an in-service, research or cases studies

Intermediate Level:

- ❖ Researches and studies areas where own knowledge base is lacking in order to augment learning and practice
- ❖ Applies new information and re-evaluates performance
- ❖ Accepts that there may be more than one answer to a problem
- ❖ Recognizes the need to and is able to verify solutions to problems
- ❖ Reads articles critically and understands limits of application to professional practice

Entry Level:

- ❖ Respectfully questions conventional wisdom
- ❖ Formulates and re-evaluates position based on available evidence
- ❖ Demonstrates confidence in sharing new knowledge with all staff levels
- ❖ Modifies programs and treatments based on newly-learned skills and considerations
- ❖ Consults with other health professionals and physical therapists for treatment ideas

Post Entry Level:

- ❖ Acts as a mentor not only to other PT's, but to other health professionals
- ❖ Utilizes mentors who have knowledge available to them
- ❖ Continues to seek and review relevant literature
- ❖ Works towards clinical specialty certifications
- ❖ Seeks specialty training
- ❖ Is committed to understanding the PT's role in the health care environment today (i.e. wellness clinics, massage therapy, holistic medicine)
- ❖ Pursues participation in clinical education as an educational opportunity

Appendix 3: Professionalism in Physical Therapy Core Values Assessment

PROFESSIONALISM IN PHYSICAL THERAPY: CORE VALUES SELF-ASSESSMENT

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PROFESSIONALISM IN PHYSICAL THERAPY: CORE VALUES

In 2000, the House of Delegates adopted Vision 2020 and the Strategic Plan for Transitioning to A Doctoring Profession (RC 37-01). The Plan includes six elements: Doctor of Physical Therapy, Evidenced-based Practice, Autonomous Practice, Direct Access, Practitioner of Choice, and Professionalism, and describes how these elements relate to and interface with the vision of a doctoring profession. In assisting the profession in its transition to a doctoring profession, it seemed that one of the initiatives that would be beneficial was to define and describe the concept of professionalism by explicitly articulating what the graduate of a physical therapist program ought to demonstrate with respect to professionalism. In addition, as a byproduct of this work, it was believed that practitioner behaviors could be articulated that would describe what the individual practitioner would be doing in their daily practice that would reflect professionalism.

As a part of the preparation for this consensus conference, relevant literature was reviewed to facilitate the development of the conference structure and consensus decision-making process. Literature in medicine^{3, 18, 19, 25, 27} reveals that this profession continues to be challenged to define professionalism, describe how it is taught, and determine how it can be measured in medical education. The groundwork and advances that medicine laid was most informative to the process and product from this conference. Physical therapy acknowledges and is thankful for medicine's research efforts in professionalism and for their work that guided this conference's structure and process.

Eighteen physical therapists, based on their expertise in physical therapist practice, education, and research, were invited to participate in a consensus-based conference convened by APTA's Education Division on July 19-21, 2002. The conference was convened for the purpose of:

- 1) Developing a comprehensive consensus-based document on Professionalism that would be integrated into *A Normative Model of Physical Therapist Professional Education, Version 2004* to include a) core values of the profession, b) indicators (judgments, decisions, attitudes, and behaviors) that are fully consistent with the core values, and c) a professional education matrix that includes educational outcomes, examples of Terminal Behavioral Objectives, and examples of Instructional Objectives for the classroom and for clinical practice.
- 2) Developing outcome strategies for the promotion and implementation of the supplement content in education and, where feasible, with practice in ways that are consistent with physical therapy as a doctoring profession.

The documentation developed as a result of this conference is currently being integrated into the next version of *A Normative Model of Physical Therapist Professional Education: Version 2004*. The table that follows is a synopsis of a portion of the conference documentation that describes what the physical therapist would be doing in his or her practice that would give evidence of professionalism.

In August 2003, **Professionalism in Physical Therapy: Core Values** was reviewed by the APTA Board of Directors and adopted as a core document on professionalism in physical therapy practice, education, and research. (V-10; 8/03)

We wish to gratefully acknowledge the efforts of those participants who gave their time and energies to this challenging initiative; a first step in clearly articulating for the physical therapist what are the core values that define professionalism and how that concept would translate into professional education.

USING THE SELF-ASSESSMENT

The Self-Assessment that follows is intended 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 sample indicators (behaviors not intended to be an exhaustive list) that describe what the practitioner would be doing in daily practice. These seven core values were identified during the consensus-based conference that further defined the critical elements that comprise professionalism. Core values are listed in alphabetical order with no preference or ranking given to these values. During the conference many important values were identified as part of professionalism in physical therapy, however not all were determined to be core (at the very essence; essential) of professionalism and unique to physical therapy. The seven values identified were of sufficient breadth and depth to incorporate the many values and attributes that are part of professionalism.

For each identified core value, (i.e., accountability, altruism, compassion/caring, excellence, integrity, professional duty, and social responsibility) a definition and sample indicators (not intended to be exhaustive) are provided that describe what the physical therapist would be doing in practice, education, and/or research if these core values were present.

Complete the Self-Assessment

Review each core value indicator and check the frequency with which you display that sample indicator in your daily practice based on the rating scale provided (1-5). It is not expected that one will rate himself or herself as 5 (always) or 1 (never) on every item. Be candid in your response as this is a self-assessment process with an opportunity for personal learning and insight, identification of areas of strength and growth, and assessment of your development in the professionalism maturation process.

Analyze the Completed Self-Assessment

Once you have completed the Self-Assessment, you may want to reflect as an individual or group on the following questions:

- On what sample indicators did you or the group consistently score yourself/themselves on the scale at the 4 or 5 levels?
- Why did you or the group rate yourself/themselves higher in frequency for demonstrating these sample behaviors?
- On what sample indicators did you or the group score yourself/themselves on the scale at level 3 or below?
- Why did you or the group rate yourself/themselves lower in frequency for demonstrating these sample behaviors?
- Identify, develop, and implement approaches to strengthening the integration of the core values within your practice environment.
- Establish personal goals for increasing the frequency with which you demonstrate specific sample behaviors with specific core value(s)
- Conduct periodic re-assessment of your core value behaviors to determine the degree to which your performance has changed in your professionalism maturation.

PROFESSIONALISM IN PHYSICAL THERAPY: CORE VALUES

For each core value listed, a definition is provided and a set of sample indicators that describe what one would see if the physical therapist were demonstrating that core value in his/her daily practice. For each of the sample indicators listed, check only one item that best represents the frequency with which you demonstrate the behavior where 1= Never, 2= Rarely, 3= Occasionally, 4= Frequently, 5= Always.

Accountability	Accountability is active acceptance of the responsibility for the diverse roles, obligations, and actions of the physical therapist including self-regulation and other behaviors that positively influence patient/client outcomes, the profession and the health needs of society.	<ol style="list-style-type: none"> 1. Responding to patient's or client's goals and needs. 2. Seeking and responding to feedback from multiple sources. 3. Acknowledging and accepting consequences of his/her actions. 4. Assuming responsibility for learning and change. 5. Adhering to code of ethics, standards of practice, and policies/procedures that govern the conduct of professional activities. 6. Communicating accurately to others (payers, patients/clients, other health care providers) about professional actions. 7. Participating in the achievement of health goals of patients/clients and society. 8. Seeking continuous improvement in quality of care. 9. Maintaining membership in APTA and other organizations. 10. Educating students in a manner that facilitates the pursuit of learning. 	<p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p>
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Altruism	Altruism is the primary regard for or devotion to the interest of patients/clients, thus assuming the fiduciary responsibility of placing the needs of the patient/client ahead of the physical therapist's self-interest.	1. Placing patient's/client's needs above the physical therapists.	1 2 3 4 5
		2. Providing pro-bono services.	1 2 3 4 5
		3. Providing physical therapy services to underserved and underrepresented populations.	1 2 3 4 5
		4. Providing patient/client services that go beyond expected standards of practice.	1 2 3 4 5
		5. Completing patient/client care and professional responsibility prior to personal needs.	1 2 3 4 5

Compassion Caring	Compassion is the desire to identify with or sense something or another's experience; a precursor of caring. Caring is the concern, empathy, and consideration for the needs and values of others.	1. Understanding the socio-cultural, economic, and psychological influences on the individual's life in their environment.	1 2 3 4 5
		2. Understanding an individual's perspective.	1 2 3 4 5
		3. Being an advocate for patient's/client's needs.	1 2 3 4 5
		4. Communicating effectively, both verbally and non-verbally, with others taking into consideration individual differences in learning styles, language, and cognitive abilities, etc.	1 2 3 4 5
		5. Empowering patients/clients to achieve the highest level of function possible and to exercise self-determination in their care.	1 2 3 4 5
		6. Focusing on achieving the greatest well-being and the highest potential for a patient/client.	1 2 3 4 5
		7. Recognizing and refraining from acting on one's social, cultural, gender, and sexual biases.	1 2 3 4 5
		8. Embracing the patient's/client's emotional and psychological aspects of care.	1 2 3 4 5
		9. Attending to the patient's/client's personal needs and comforts.	1 2 3 4 5
		10. Demonstrating respect for others and considers others as unique and of value.	1 2 3 4 5

Excellence	Excellence is physical therapy practice that consistently uses current knowledge and theory while understanding personal limits, integrates judgment and the patient/client perspective, challenges mediocrity, and works toward development of new knowledge.	<ol style="list-style-type: none"> 1. Demonstrating investment in the profession of physical therapy. 2. Internalizing the importance of using multiple sources of evidence to support professional practice and decisions. 3. Participating in integrative and collaborative practice to promote high quality health and educational outcomes. 4. Conveying intellectual humility in professional and personal situations. 5. Demonstrating high levels of knowledge and skill in all aspects of the profession. 6. Using evidence consistently to support professional decisions. 7. Demonstrating a tolerance for ambiguity. 8. Pursuing new evidence to expand knowledge. 9. Engaging in acquisition of new knowledge throughout one's professional career. 10. Sharing one's knowledge with others. 11. Contributing to the development and shaping of excellence in all professional roles. 	<p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p>
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Integrity	Integrity is steadfast adherence to high ethical principles or professional standards; truthfulness, fairness, doing what you say you will do, and “speaking forth” about why you do what you do.	<ol style="list-style-type: none"> 1. Abiding by the rules, regulations, and laws applicable to the profession. 2. Adhering to the highest standards of the profession (practice, ethics, reimbursement, Institutional Review Board [IRB], honor code, etc.) 3. Articulating and internalizing stated ideals and professional values. 4. Using power (including avoidance or use of unearned privilege) judiciously. 5. Resolving dilemmas with respect to a consistent set of core values. 6. Being trustworthy. 7. Taking responsibility to be an integral part in the continuing management of patients/clients. 8. Knowing one’s limitations and acting accordingly. 9. Confronting harassment and bias among ourselves and others. 10. Recognizing the limits of one’s expertise and making referrals appropriately. 	<p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p>
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Professional Duty	Professional duty if the commitment to meeting one's obligations to provide effective physical therapy services to individual patients/clients, to serve the profession, and to positively influence the health of society.	1. Demonstrating beneficence by providing "optimal" care.	1 2 3 4 5
		2. Facilitating each individual's achievement of goals for function, health, and wellness.	1 2 3 4 5
		3. Preserving the safety, security, and confidentiality of individuals in all professional contexts.	1 2 3 4 5
		4. Involved in professional activities beyond the practice setting.	1 2 3 4 5
		5. Promoting the profession of physical therapy.	1 2 3 4 5
		6. Mentoring others to realize their potential.	1 2 3 4 5
		7. Taking pride in one's profession.	1 2 3 4 5

Social Responsibility	Social responsibility is the promotion of a mutual trust between the profession and the larger public that necessitates responding to societal needs for health and wellness.	<ol style="list-style-type: none"> 1. Advocating for health and wellness needs of society including access to health care and physical therapy services. 2. Promoting cultural competence within the profession and the larger public. 3. Promoting social policy that effect function, health, and wellness needs of patients/clients. 4. Ensuring that existing social policy is in the best interest of the patient/client. 5. Advocating for changes in laws, regulations, standards, and guidelines that affect physical therapist service provision. 6. Promoting community volunteerism. 7. Participating in political activism. 8. Participating in achievement of societal health goals. 9. Understanding of current community wide, nationwide, and worldwide issues and how they impact society's health and well-being and the delivery of physical therapy. 10. Providing leadership in the community. 11. Participating in collaborative relationships with other health care practitioners and the public at large. 12. Ensuring the blending of social justice and economic efficiency of services. 	<p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p> <p>1 2 3 4 5</p>
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November 25, 2014

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APTA Request Reference: **PTJ 141/14; APTA Core Values**

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Michele Tillson
Publishing and Member Communications Specialist

Appendix 4: Modified Standardized Patient Satisfaction Questionnaire Consent Forms



NOVA SOUTHEASTERN UNIVERSITY
Health Professions Division
College of Health Care Sciences
Physical Therapy Department

NOVA SOUTHEASTERN UNIVERSITY
Institutional Review Board
Approval Date: AUG 20 2014
Continuing Review Date: AUG 19 2015

Standardized Patient Surrogate Actor Consent Form for Participation in the Research Study Entitled "Inter-rater Reliability of the modified Standardized Patient Satisfaction Questionnaire (MSPSQ) in Assessing Physical Therapist Student Professional Behavior"

Funding Source: None

IRB protocol #: 07291420Exp

Principal investigator(s):
Mary Anne Riopel, PT, DPT
3307 North Broad Street, Jones 611
Philadelphia, PA 19140
(215) 707-5733

Co-investigator(s)
Bini Litwin, PT, DPT PhD
3200 South University Drive
Fort Lauderdale, FL 33328
(954) 262-1274

For questions/concerns about your research rights, contact:
Human Research Oversight Board (Institutional Review Board or IRB)
Nova Southeastern University
(954) 262-5369/Toll Free: 866-499-0790
IRB@nsu.nova.edu

Site Information:
Temple University
William Maui Measey Institute for Clinical Simulation and Patient Safety
Medical Education and Research Building
3500 North Broad Street, Suite 350
Philadelphia, PA 19140

What is the study about?

This is a research project to gather information about the reliability of a questionnaire. The purpose of this study is to determine if a specific questionnaire can be used to rate student professional behavior. The questionnaire will be used by you acting as a surrogate patient (actor) to assess professional behavior in physical therapist students enrolled in a university physical therapy program.

Why are you asking me?

You are being asked to participate in this study since you have experience in portraying standardized patient scenarios in a health care education environment. The approximate number of subjects is 3-4.

Initials: _____ Date: _____

Page 1 of 3

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(954) 262-1662 • 800-356-0026, ext. 21662 • Fax: (954) 262-1783 • www.nova.edu/pt

College of Osteopathic Medicine • College of Pharmacy • College of Optometry • College of Health Care Sciences
College of Medical Sciences • College of Dental Medicine • College of Nursing

What will I be doing if I agree to be in the study?

You will be audio and videotaped while you act as a surrogate patient for PT student(s) performing a medical interview as part of normal classroom practice. You will participate in 4-6 medical interviews for a maximum time of 360 minutes. You will be trained in the use of a questionnaire to rate PT student professional behavior for 1 hour prior to use. Using a questionnaire, you will rate the PT student on their performance after the medical interview, which will take 10 minutes to complete each questionnaire. There are no other procedures or follow-up required by you other than to complete the rating questionnaire.

Is there any audio or video recording?

This research project will include audio and video recording of you portraying a simulated patient history during a student Clinical Simulation elective class. This audio and video recording will be available to be heard by the IRB, any granting agencies, the investigator, the co-investigator, and seven actors, other than you. The recording will not be transcribed. The recording will be kept securely by the investigator at the investigator's address as a computer file on an external hard drive. The recording will be kept for 36 months and then will be deleted at that time. Because your image and your voice will be potentially identifiable by anyone who hears or sees the recording, your confidentiality for things you say or do on the recording cannot be guaranteed although the researcher will try to limit access to the tape as described in this paragraph.

What are the dangers to me?

This study poses no more than minimal risk to you. You may experience some minor emotional discomfort in rating the PT students. The possibility of loss of confidentiality exists but will be minimized by only providing availability of the audio and video recordings to the primary investigator, co-investigator, IRB, granting agencies, and the seven SP reviewers. The procedures or activities in this study may have unknown or unforeseeable risks. If you have any questions about the research, your research rights, or have a research-related injury, please contact Mary Anne Riopel and/or Bini Litwin at the numbers noted above. You may also contact the IRB at the numbers indicated above with questions as to your research rights.

Are there any benefits for taking part in this research study?

There are no direct benefits.

Will I get paid for being in the study? Will it cost me anything?

You will not be paid a fee for participation in this study. There are no costs to you for participating in this study.

How will you keep my information private?

All information obtained in this study is strictly confidential unless disclosure is required

Initials: _____ Date: _____

Page 2 of 4

by law. The completed questionnaires and audio and video recordings will be stored for 36 months in the investigator's office in a locked cabinet and then destroyed. The audio and video recordings and questionnaires will remain confidential and will only be available for review by the IRB, regulatory agencies, the investigator, and the co-investigator.

What if I do not want to participate or I want to leave the study?

You have the right to leave this study at any time or refuse to participate. If you do decide to leave or you decide not to participate, you will not experience any penalty or loss of services you have a right to receive. If you choose to withdraw, any information collected about you before the date you leave the study will be kept in the research records for 36 months from the conclusion of the study but you may request that it not used.

Other Considerations:

If significant new information relating to the study becomes available, which may relate to your willingness to continue to participate, this information will be provided to you by the investigators.

Voluntary Consent by Participant:

By signing below, you indicate that

- this study has been explained to you
- you have read this document or it has been read to you
- your questions about this research study have been answered
- you have been told that you may ask the researchers any study related questions in the future or contact them in the event of a research-related injury
- you have been told that you may ask Institutional Review Board (IRB) personnel questions about your study rights
- you are entitled to a copy of this form and after you read and sign it you voluntarily agree to participate in the study entitled "Inter-rater Reliability of the modified Standardized Patient Satisfaction Questionnaire (MSPSQ) in Assessing Physical Therapist Student Professional Behavior"

Participant's Signature: _____ Date: _____

Participant's Name: _____ Date: _____

Signature of Person Obtaining Consent _____

Date: _____

Initials: _____ Date: _____



NOVA SOUTHEASTERN UNIVERSITY
 Health Professions Division
 College of Health Care Sciences
 Physical Therapy Department

NOVA SOUTHEASTERN UNIVERSITY
 Institutional Review Board
 Approval Date: AUG 20 2014
 Continuing Review Date: AUG 19 2015

**Standardized Patient Reviewer Consent Form for Participation in the Research Study
 Entitled "Inter-rater Reliability of the modified Standardized Patient Satisfaction
 Questionnaire (MSPSQ) in Assessing Physical Therapist Student Professional
 Behavior"**

Funding Source: None.

IRB protocol #: 07291420Exp

Principal investigator(s):
 Mary Anne Riopel, PT, DPT
 3307 North Broad Street, Jones 611
 Philadelphia, PA 19140
 (215) 707-5733

Co-investigator(s)
 Bini Litwin, PT, DPT PhD
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Site Information:
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 William Maul Measey Institute for Clinical Simulation and Patient Safety
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 3500 North Broad Street, Suite 350
 Philadelphia, PA 19140

What is the study about?

This is a research project to gather information about the reliability of a questionnaire. The purpose of this study is to determine if a specific questionnaire can be used to rate student professional behavior. The questionnaire will be used by you as a standardized patient actor to assess professional behavior in physical therapist students enrolled in a university physical therapy program.

Why are you asking me?

You are being asked to participate in this study since you have experience in portraying standardized patient scenarios in a health care education environment. The approximate number of subjects is 7.

Initials: _____ Date: _____

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 College of Medical Sciences • College of Dental Medicine • College of Nursing

What will I be doing if I agree to be in the study?

You will be trained for one hour on the use of a questionnaire to rate PT student professional behavior. You will view 1-2 audio and video recordings of PT students performing a medical interview of a SP surrogate patient. This will take between 60-120 minutes. After viewing each video, you will rate the student's professional behavior, which will take an additional 10 minutes to complete each questionnaire.

Is there any audio or video recording?

This research project will not include audio or video recording of you while rating the student.

What are the dangers to me?

This study poses no more than minimal risk to you. You may experience some minor emotional discomfort in rating the PT students. Your ratings of the students will remain confidential and will only be known to the primary investigator. The procedures or activities in this study may have unknown or unforeseeable risks. If you have any questions about the research, your research rights, or have a research-related injury, please contact Mary Anne Riopel and/or Bini Litwin at the numbers noted above. You may also contact the IRB at the numbers indicated above with questions as to your research rights.

Are there any benefits for taking part in this research study?

There are no direct benefits.

Will I get paid for being in the study? Will it cost me anything?

You will be paid \$22 per hour for participation in this study. There are no costs to you for participating in this study.

How will you keep my information private?

All information obtained in this study is strictly confidential unless disclosure is required by law. The completed questionnaires will be stored for 36 months in the investigator's office in a locked cabinet and then destroyed. The questionnaires will only be available for review by the IRB, regulatory agencies, the primary investigator, and the co-investigator.

What if I do not want to participate or I want to leave the study?

You have the right to leave this study at any time or refuse to participate. If you do decide to leave or you decide not to participate, you will not experience any penalty or loss of services you have a right to receive. If you choose to withdraw, any information collected about you **before** the date you leave the study will be kept in the research records for 36 months from the conclusion of the study but you may request that it not used.

Initials: _____ Date: _____

Page 2 of 3

Other Considerations:

If significant new information relating to the study becomes available, which may relate to your willingness to continue to participate, this information will be provided to you by the investigators.

Voluntary Consent by Participant:

By signing below, you indicate that

- this study has been explained to you
- you have read this document or it has been read to you
- your questions about this research study have been answered
- you have been told that you may ask the researchers any study related questions in the future or contact them in the event of a research-related injury
- you have been told that you may ask Institutional Review Board (IRB) personnel questions about your study rights
- you are entitled to a copy of this form and after you have read and signed it you voluntarily agree to participate in the study entitled "Inter-rater Reliability of the modified Standardized Patient Satisfaction Questionnaire (MSPSQ) in Assessing Physical Therapist Student Professional Behavior"

Participant's Signature: _____ Date: _____

Participant's Name: _____ Date: _____

Signature of Person Obtaining Consent _____

Date: _____

Initials: _____ Date: _____

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NOVA SOUTHEASTERN UNIVERSITY
 Health Professions Division
 College of Health Care Sciences
 Physical Therapy Department

NOVA UNIVERSITY
 Institutional Review Board
 Approval Date: AUG 20 2014
 Continuing Review Date: AUG 19 2015

Physical Therapy Student Consent Form for Participation in the Research Study Entitled "Inter-rater Reliability of the modified Standardized Patient Satisfaction Questionnaire (MSPSQ) in Assessing Physical Therapist Student Professional Behavior"

Funding Source: None.

IRB protocol #: 07291420Exp.

Principal investigator(s):
 Mary Anne Riopel, PT, DPT
 3307 North Broad Street, Jones 611
 Philadelphia, PA 19140
 (215) 707-5733

Co-investigator(s)
 Bini Litwin, PT, DPT PhD
 3200 South University Drive
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IRB@nsu.nova.edu

Site Information:
 Temple University
 William Maul Measey Institute for Clinical Simulation and Patient Safety
 Medical Education and Research Building
 3500 North Broad Street, Suite 350
 Philadelphia, PA 19140

What is the study about?

This is a research project to gather information about the reliability of a questionnaire. The purpose of this study is to determine if a specific questionnaire can be used to rate student professional behavior. The questionnaire will be used by surrogate patients (actors) to assess professional behavior in physical therapist students enrolled in a university physical therapy program.

Why are you asking me?

You are being asked to participate in this study since you are enrolled in a university physical therapy program in a clinical simulation class where surrogate patients (actors) have been used to assess students. The approximate number of subjects is 14.

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Page 1 of 3

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 College of Medical Sciences • College of Dental Medicine • College of Nursing



What will I be doing if I agree to be in the study?

You will be audio and video recorded while completing a patient history on an actor portraying a patient. This is required as an assignment of your Clinical Simulation class. There are no other procedures or follow-up required by you other than to perform the patient history. This will take 60 minutes. The actor who you interview will complete a questionnaire about your professional performance after the encounter. The audio and video recording of your patient history will be shown to seven additional actors for the purposes of determining accuracy of the survey.

Is there any audio or video recording?

This research project will include audio and video recording of you performing a simulated patient history during your Clinical Simulation elective. This audio and video recording will be available to be heard by the researcher, the IRB, any granting agencies, the investigator, the co-investigator, and the seven actors doing the review. The recording will not be transcribed. The recording will be kept securely by the investigator at the investigator's address as a computer file on an external hard drive. The recording will be kept for 36 months and then will be deleted at that time. Because your image and your voice will be potentially identifiable by anyone who hears or sees the recording, your confidentiality for things you say or do on the recording cannot be guaranteed although the researcher will try to limit access to the tape as described in this paragraph.

What are the dangers to me?

This study poses no more than minimal risk to you. Due to the audio and video recording, there is a risk that your confidentiality may not be maintained. There is a potential for discomfort associated with pressure that you may feel due to being audio and videotaped. Your grade will not be affected by participation in this study or the SP rating of your performance. The videotape of your performance will be viewed by the primary investigator and reviewers solely for data analysis purposes. The procedures or activities in this study may have unknown or unforeseeable risks. If you have any questions about the research, your research rights, or have a research-related injury, please contact Mary Anne Riopel and/or Bini Litwin at the numbers noted above. You may also contact the IRB at the numbers indicated above with questions as to your research rights.

Are there any benefits for taking part in this research study?

There are no direct benefits. Participation in this study will not impact your grade for your Clinical Simulation elective.

Will I get paid for being in the study? Will it cost me anything?

There are no costs to you or payments made for participating in this study.

How will you keep my information private?

Initials: _____ Date: _____

Page 2 of 3

All information obtained in this study is strictly confidential unless disclosure is required by law. Data will be stored for 36 months in the investigator's office on an external hard drive. The IRB, regulatory agencies, the investigator, and the co-investigator may review research records.

What if I do not want to participate or I want to leave the study?

You have the right to leave this study at any time or refuse to participate. If you do decide to leave or you decide not to participate, you will not experience any penalty or loss of services you have a right to receive. If you choose to withdraw, any information collected about you **before** the date you leave the study will be kept in the research records for 36 months from the conclusion of the study but you may request that it not be used.

Other Considerations:

If significant new information relating to the study becomes available, which may relate to your willingness to continue to participate, this information will be provided to you by the investigators.

Voluntary Consent by Participant:

By signing below, you indicate that

- this study has been explained to you
- you have read this document or it has been read to you
- your questions about this research study have been answered
- you have been told that you may ask the researchers any study related questions in the future or contact them in the event of a research-related injury
- you have been told that you may ask Institutional Review Board (IRB) personnel questions about your study rights
- you are entitled to a copy of this form and after you have read and signed it you voluntarily agree to participate in the study entitled "Inter-rater Reliability of the modified Standardized Patient Satisfaction Questionnaire (MSPSQ) in Assessing Physical Therapist Student Professional Behavior"

Participant's Signature: _____ Date: _____

Participant's Name: _____ Date: _____

Signature of Person Obtaining Consent _____

Date: _____

Initials: _____ Date: _____

Page 3 of 3



MEMORANDUM

To: Mary Anne Riopel, PT, DPT
HPD – College of Health Care Sciences

From: David Thomas, JD, MD
Chair, Institutional Review Board *WHS & DT*

Date: October 13, 2014

Re: *Inter-rater Reliability of the Modified Standardized Patient Satisfaction Questionnaire (MSPSQ) in Assessing Physical Therapist Student Professional Behavior—NSU IRB Protocol No. 07291420Exp.*

I have reviewed the amendments to the above-referenced research protocol by an expedited procedure. On behalf of the Institutional Review Board of Nova Southeastern University, the following amendments to *Inter-rater Reliability of the Modified Standardized Patient Satisfaction Questionnaire (MSPSQ) in Assessing Physical Therapist Student Professional Behavior* are approved:

- Reduction of time commitment from 10 hours to 8 hours
- Updated consent form

Please note that this does not affect the continuing review date for this protocol.

Cc: Dr. M. Samuel Cheng
Dr. Bini Litwin
Mr. William Smith



NOVA SOUTHEASTERN UNIVERSITY
 Health Professions Division
 College of Health Care Sciences
 Physical Therapy Department

NOVA SOUTHEASTERN UNIVERSITY
 Institutional Review Board
 Approval Date: AUG 20 2014
 Continuing Review Date: AUG 19 2015

IRB Protocol No. 07291420Exp

**Standardized Patient Reviewer Consent Form for Participation in the Research Study
 Entitled "Inter-rater Reliability of the modified Standardized Patient Satisfaction
 Questionnaire (MSPSQ) in Assessing Physical Therapist Student Professional
 Behavior"**

Funding Source: None.

IRB protocol #:

Principal investigator(s):
 Mary Anne Riopel, PT, DPT
 3307 North Broad Street, Jones 611
 Philadelphia, PA 19140
 (215) 707-5733

Co-investigator(s)
 Bini Litwin, PT, DPT PhD
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Site Information:
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What is the study about?

This is a research project to gather information about the reliability of a questionnaire. The purpose of this study is to determine if a specific questionnaire can be used to rate student professional behavior. The questionnaire will be used by you as standardized patient actors to assess professional behavior in physical therapist students enrolled in a university physical therapy program.

Why are you asking me?

You are being asked to participate in this study since have experience in portraying standardized patient scenarios in a health care education environment. The approximate number of subjects is 7.

Initials: _____ Date: _____

Page 1 of 3

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 College of Medical Sciences • College of Dental Medicine • College of Nursing

What will I be doing if I agree to be in the study?

You will be trained for 2 hours on the use of a questionnaire to rate PT student professional behavior. You will view up to 15 audio and video recordings of PT students performing a medical interview of a SP surrogate patient. This will take up to 8 hours. After viewing these videos, you will rate the student professional behavior which will take an additional 10 minutes to complete each questionnaire.

Is there any audio or video recording?

This research project will not include audio or video recording of you while rating the student.

What are the dangers to me?

This study poses no more than minimal risk to you. You may experience some minor emotional discomfort in rating the PT students. The procedures or activities in this study may have unknown or unforeseeable risks. If you have any questions about the research, your research rights, or have a research-related injury, please contact Mary Anne Riopel and/or Bini Litwin at the numbers noted above. You may also contact the IRB at the numbers indicated above with questions as to your research rights.

Are there any benefits for taking part in this research study?

There are no direct benefits.

Will I get paid for being in the study? Will it cost me anything?

You will be paid \$22 per hour for participation in this study. There are no costs to you for participating in this study.

How will you keep my information private?


All information obtained in this study is strictly confidential unless disclosure is required by law. The completed questionnaires will be stored for 36 months in the investigator's office in a locked cabinet and then destroyed. The questionnaires will remain confidential and will only available for review by the IRB, regulatory agencies, the primary investigator, and the co-investigator.

What if I do not want to participate or I want to leave the study?

You have the right to leave this study at any time or refuse to participate. If you do decide to leave or you decide not to participate, you will not experience any penalty or loss of services you have a right to receive. If you choose to withdraw, any information collected about you **before** the date you leave the study will be kept in the research records for 36 months from the conclusion of the study but you may request that it not used.

Other Considerations:

Initials: _____ Date: _____


NOVA UNIVERSITY
Institutional Review Board
Approval Date: AUG 20 2014
Continuing Review Date: AUG 19 2015

Page 2 of 3

If significant new information relating to the study becomes available, which may relate to your willingness to continue to participate, this information will be provided to you by the investigators.

Voluntary Consent by Participant:

By signing below, you indicate that


- this study has been explained to you
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- your questions about this research study have been answered
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- you are entitled to a copy of this form after you have read and signed it you voluntarily agree to participate in the study entitled "Inter-rater Reliability of the modified Standardized Patient Satisfaction Questionnaire (MSPSQ) in Assessing Physical Therapist Student Professional Behavior"

Participant's Signature: _____ Date: _____

Participant's Name: _____ Date: _____

Signature of Person Obtaining Consent _____

Date: _____


NOVA UNIVERSITY
Institutional Review Board
Approval Date: AUG 20 2014
Continuing Review Date: AUG 19 2015

Initials: _____ Date: _____

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Appendix 5: Curriculum Matrix

IPTE Curriculum Revision [4-22-14]

DPTI – Summer

PT708 – Anatomy (6 credits): *This course covers the study of human anatomical structures as they relate to movement, physiological demands of activity, and exercise. Specimens, models, and videos aid a regional approach to the study of structures. The course consists of both lectures and laboratory experiences with pro-section and cadaver dissection.*

DPTI – Fall

BIOL505 – Histology (3 credits): *This course includes a comprehensive study of the microscopic and submicroscopic structure of mammalian tissues. Emphasis is also placed on the function of cellular structures and recent research findings in the area of cellular biology.*

PT725 – Kinesiology (3 credits): *This course covers analysis of human posture and movement in normal and abnormal states. Course includes palpation of anatomical structures and study of the principles of biomechanics, including arthrokinematics, osteokinematics, and kinetics.*

PT730 – Client Management I (3 credits): *This course consists of basic interventions administered by a physical therapist in a clinical setting. Course includes basic gait training, physical modalities, transfers, safety procedures, massage, and documentation including electronic documentation. Lecture and laboratory components prepare students for direct patient care.*

PT703 – The Healthcare Market (4 credits): *This course starts with an overview of the health care market including the financing, delivery, and organization of medical care services. Topics*

include health care costs and cost containment, regulation, quality of care, health insurance both public and private, and health care politics. The course then transitions to the roles of the physical therapist in the broader health care system as well as the interdisciplinary nature of clinical practice. The professional, legal and ethical responsibilities inherent in the relationships with clients, colleagues, families, and communities will be discussed. 4 semester hours

PT716 – Global Health I (1 credit): This course will expose the student to the physical therapist’s professional role in community health. The content will cover health disparities and the social determinants of health, health literacy, and issues of healthcare access. Issues and history specific to the City of Chester will be addressed. A required reading will provide a framework for class discussion and reflection.

PT713 – Lifespan I (2 credits): This course provides a foundation for physical therapy practice with individuals throughout adulthood. It will cover the typical aging process from early adulthood through older adulthood. Topics related to the psychosocial, motor and cognitive impact of aging will be addressed. Particular emphasis is placed on the relationship between the aging process and realistic goal-setting for physical therapy intervention of clients throughout adulthood.

PT771 – Community Health Practicum (1 credit): This course is a service-learning course designed to address the American Physical Therapy Association (APTA) code of ethics call to address the health needs of society and to also address the core value of Social Responsibility. The IPTE Community Health Practicum introduces physical therapist students to concepts related to the role of physical therapists in prevention and the promotion of health, wellness, and fitness. Physical therapist students will have the opportunity to gain an understanding and

appreciation of the relationship between health and wellness, physical therapist professionals, and the culture and needs of local social groups. Students will participate in ongoing programming at three sites (Freedom Baptist Church After School Physical Activity Program, Widener Child Development Center Physical Activity Program, Stinson Towers Physical Activity Program.) Students will also participate in one bike helmet giveaway/brain safety fair. Throughout the entire Community Health Practicum sequence, the student will engage in at least 30 hours of direct service-learning within the community.

DPTI – Spring

PT726 – Multisystem Examination, Evaluation, Diagnosis (4 credits): This course covers the administration of test and measures to collect data pertaining to body system states, general health status, and functional capacity of clients for screening or the determination of a physical therapy diagnosis, planning of treatment interventions, evaluating outcomes of care, and referral to other practitioners.

PT709 – Neuromuscular System I (4 credits): This course will focus on the normal and abnormal physiology of the neuromuscular system including concepts of neuroscience in the practice of physical therapy. It defines the relationship between structure, function, and control of the human nervous system in normal and pathological states. This course is used to build a foundation for courses later in the curriculum which will address the examination, evaluation and intervention of patients with neurological conditions.

PT727 – Musculoskeletal System I (4 credits): This course will focus on the normal and abnormal physiology of the musculoskeletal system in the practice of physical therapy. A review of

selected musculoskeletal conditions will address the incidence/prevalence, etiology, clinical signs and symptoms, differential diagnosis, diagnostic imaging procedures, medical/surgical/pharmacologic management, as well as prognosis and potential for recovery for selected conditions. This course is used to build a foundation for courses later in the curriculum which will address the examination, evaluation and intervention of patients with musculoskeletal conditions.

PT750 – Evidence-Based Inquiry I (2 credits): This course explores concepts of qualitative and quantitative research as a broad frame in formulating and answering relevant clinical research questions and fostering an understanding of principles of evidence-based clinical practice. Students are encouraged to compose questions in the context of contemporary health care and physical therapy practice that address etiology, diagnosis and screening, intervention, prognosis, economic impact, or harm. The course focus is also on examining issues in health care related to health status, body function and structure, activity, and participation.

PT724 – Clinical Practice I (3 credits): This course, with its emphasis on clinical practice, will initiate an understanding of the full role of the physical therapist based on focused and directed clinical experiences. Topics that will be addressed include the development of professional behaviors, self-assessment / reflective practice, clinical reasoning and decision-making in physical therapy, and the development of expertise in physical therapy. Students will spend 30 hours observing in various local clinics.

PT772 – Community Health Practicum II (1 credit): This course is a service-learning course designed to address the American Physical Therapy Association (APTA) code of ethics call to address the health needs of society and to also address the core value of Social Responsibility.

The IPTE Community Health Practicum introduces physical therapist students to concepts related to the role of physical therapists in prevention and the promotion of health, wellness, and fitness. Physical therapist students will have the opportunity to gain an understanding and appreciation of the relationship between health and wellness, physical therapist professionals, and the culture and needs of local social groups. Students will participate in ongoing programming at three sites (Freedom Baptist Church After School Physical Activity Program, Widener Child Development Center Physical Activity Program, Stinson Towers Physical Activity Program.) Students will also participate in one bike helmet giveaway/brain safety fair. Throughout the entire Community Health Practicum sequence, the student will engage in at least 30 hours of direct service-learning within the community.

DPTII – Summer

PT732 – Musculoskeletal II (4 credits): This course includes a regional approach to the musculoskeletal examination, evaluation, diagnosis, and prognosis of the upper and lower extremities. Throughout the course an emphasis will be placed upon the process of clinical decision making for the client with a dysfunction in the musculoskeletal condition. Students will utilize examination findings to establish a differential diagnosis that informs intervention. The intervention component includes the theory and practical application of therapeutic exercise and manual interventions including range of motion, proprioceptive neuromuscular facilitation, mobilization, stretching, and progressive resistance activities as well as adjunctive interventions.

PT728 – Cognitive Neuroscience (2 credits): This course is designed to provide a basis for understanding the role of cognitive neuroscience in the practice of physical therapy. Topics

which will be discussed in the context of normal and abnormal function will include attention, memory, language, executive function, and motor learning in typical and patient populations.

PT737 - Visceral Systems (2 credits): This course will focus on the normal and abnormal physiology of various organ systems related to practice of physical therapy. A review of selected health conditions will address the incidence/prevalence, etiology, clinical signs and symptoms, differential diagnosis, diagnostic imaging procedures, medical/surgical/pharmacologic management, as well as prognosis and potential for recovery for selected conditions. This course will build a foundation for medical screening by the physical therapist.

PT818 – Health Promotion and Wellness (3 credits): This course marks the transition towards a leadership role at students' assigned Community Health Practicum site. Students will learn how to conduct a needs assessment; create program mission, goals and objectives; design and implement a health promotion program, and plan and conduct an evaluation of this program. The students will engage in formal writing and creation of a poster.

PT770 – Grand Rounds (1 credit): This course provides an additional opportunity for students serving in the Chester Community Physical Therapy Clinic to participate in and receive mentoring regarding the services provided via the clinic. Students will work in groups with a clinician mentor to collaborate on aspects of the patient/client management model for active cases in order to optimize outcomes.

DPTII – Fall

PT736 – Musculoskeletal III (4 credits): This course includes a regional approach to the musculoskeletal examination, evaluation, diagnosis, and prognosis of the spine. Students will

utilize examination findings to establish a differential diagnosis that informs intervention.

Throughout the course an emphasis will be placed upon the process of clinical decision making for the client with an orthopedic dysfunction, disease, or injury and students will review selected musculoskeletal diagnoses. The intervention component includes the theory and practical application of therapeutic exercise and manual interventions. The principles of range of motion, proprioceptive neuromuscular facilitation, mobilization, stretching, and progressive resistance activities are included, in addition to a review of adjunctive interventions. Rationale and methods for intervention planning are emphasized as they relate to the solution of client problems.

PT733 –Client Management II (3 credits): The course is designed to explore the process of examination, evaluation, diagnosis, prognosis, and intervention used in providing physical therapy to clients that are typically seen in rehabilitation settings, which includes spinal cord injury, amputation, cerebral vascular accident, traumatic brain injury, and joint replacement. Principles of evidence based practice, the relationship between impairments and function, and the importance of family/client education are emphasized throughout the course.

PT729 – Cardiovascular, Pulmonary, and Integumentary Systems (4 credits): This course will focus on the normal and abnormal physiology of the cardiovascular and pulmonary and integumentary systems in the practice of physical therapy. A review of selected conditions of the cardiovascular, pulmonary, and integumentary systems will address the incidence/prevalence, etiology, clinical signs and symptoms, differential diagnosis, diagnostic imaging procedures, medical/surgical/pharmacologic management, as well as prognosis and potential for recovery for selected conditions. This course is used to build a foundation for courses later in the

curriculum which will address the examination, evaluation and intervention of patients with cardiovascular, pulmonary, and integumentary conditions.

PT751 – Evidence-Based Inquiry II (2 credits): The course focuses on the application of principles of clinical research to physical therapy practice. A primary objective is for students to acquire the knowledge, understanding and skill necessary to critically read and research the literature in physical therapy. In addition, students will analyze, interpret, and present data from standardized data sets and classroom initiated projects. The student is expected to become proficient in the interpretation of published research by demonstrating knowledge of the application of statistics and different methods of research. The course also focuses on critically examining the psychometric properties of tests and measures of health status, body function and structure, activity, and participation.

PT718 – Global Health II (2 credits): This course will explore the many facets of cultural considerations for the physical therapist. The content will cover communication, health beliefs / practices, use of a translator, and conducting a cultural assessment. Emphasis will be placed on practical considerations for the physical therapist. A required reading will provide a framework for class discussion and reflection. A required cultural interview will help the student with self-assessment as well as practical application.

PT773 – Community Health Practicum III (1 credit): This course is a service-learning course designed to address the American Physical Therapy Association (APTA) code of ethics call to address the health needs of society and to also address the core value of Social Responsibility. The IPTE Community Health Practicum introduces physical therapist students to concepts related to the role of physical therapists in prevention and the promotion of health, wellness,

and fitness. Physical therapist students will have the opportunity to gain an understanding and appreciation of the relationship between health and wellness, physical therapist professionals, and the culture and needs of local social groups. Students will participate in ongoing programming at three sites (Freedom Baptist Church After School Physical Activity Program, Widener Child Development Center Physical Activity Program, Stinson Towers Physical Activity Program.) Students will also participate in one bike helmet giveaway/brain safety fair. Throughout the entire Community Health Practicum sequence, the student will engage in at least 30 hours of direct service-learning within the community.

DPTII – Spring

PT837 –Neuromuscular System II (4 credits): The course is designed to explore the process of examination, evaluation, diagnosis, prognosis, and intervention used in providing physical therapy to clients with neurological dysfunction. The course will be focused on common neuromuscular conditions including stroke, traumatic brain injury, Parkinson’s disease, and spinal cord injury. Principles of evidence based practice, the relationship between impairments and function, and the importance of family/client education are emphasized throughout the course.

PT805 – Client Management III (2 credits): This course focuses on the administration of therapeutic ultrasound and electrophysiologic modalities administered by a physical therapist in a clinical setting. Lecture and laboratory components prepare students for direct patient care.

PT820 – Client Management IV (4 credits): This course will focus on developing and refining examination and intervention skills in patients with acute pathologies. The course will include a

didactic and lab component intended to develop the students' hands on skills in performing skills such as strength, ROM assessment, balance, coordination, proprioception, auscultation of the heart and lungs, chest wall excursion and breathing pattern. In addition, students will gain exposure to interventional skills, including not only functional mobility, but also airway clearance and chest wall mobility techniques. Cases encountered in this class will encompass the musculoskeletal, neuromuscular, integumentary and cardiopulmonary systems.

PT752 – Evidence-Based Inquiry III (2 credits): This course is an introduction to qualitative research with an emphasis on the role that qualitative research fills in the evidence-based practice of physical therapy. The course will cover the assumptions of the qualitative paradigm, include a comparison to the quantitative paradigm, and consider how both approaches might be used together. Students will have many opportunities to study the qualitative literature related to physical therapy to enhance their understandings of the concepts and expose them to practical applications. The course will include a fieldwork experience and culminate in a project where student groups present an article critique.

PT813 – Lifespan II (4 credits): This course provides a foundation for physical therapy practice with individuals, infancy through adolescence. The course begins with a survey of normal growth and development in the areas of motor, cognitive, communication, and psychosocial development. Particular emphasis is placed on differentiating the typical from the atypical as a foundation for examination and evaluation of pediatric clients. Elements of standardized and developmental tests and measures as well strategies for physical therapy interventions for movement dysfunction in the pediatric population will be explored. Students will gain hands-on experiences through guided laboratory sessions and visits to pediatric clinical settings.

PT774 - Community Health Practicum IV (1 credit): *This course is a service-learning course designed to address the American Physical Therapy Association (APTA) code of ethics call to address the health needs of society and to also address the core value of Social Responsibility. The IPTE Community Health Practicum introduces physical therapist students to concepts related to the role of physical therapists in prevention and the promotion of health, wellness, and fitness. Physical therapist students will have the opportunity to gain an understanding and appreciation of the relationship between health and wellness, physical therapist professionals, and the culture and needs of local social groups. Students will participate in ongoing programming at three sites (Freedom Baptist Church After School Physical Activity Program, Widener Child Development Center Physical Activity Program, Stinson Towers Physical Activity Program.) Students will also participate in one bike helmet giveaway/brain safety fair. Throughout the entire Community Health Practicum sequence, the student will engage in at least 30 hours of direct service-learning within the community.*

DPTIII – Summer

PT780 – Clinical Practice II (6 credits): *This course entails full-time assignment to a clinical setting for 10 weeks of practice with a clinical instructor. A variety of settings are selected for internships including hospitals, long-term care facilities, private practice settings, rehabilitation hospitals, home care agencies, and industrial health programs. Seminars will be scheduled on campus prior to and following clinical affiliations.*

PTXXX - Trinidad International Service-Learning Exchange

PTXXX - Dominican Republic International Service-Learning Exchange

DPTIII – Fall

PT715 – Teaching and Learning (3 credits): *This course introduces students to formal educational and learning theory and their applications to the classroom and the client care settings. The students will have the opportunity to learn the process of evaluating learner needs, develop a plan to address those needs, and learn to evaluate the outcomes of the teaching session. Woven throughout this course are opportunities for the student to develop self-assessment and conduct peer assessment. This course possesses a service-learning component where students will complete and administer a community health teaching module within the community. The course will culminate with a practical examination in order to apply new skills and demonstrate competence in the course content of teaching and learning.*

PT810 – Administration and Leadership (4 credits): *This course is designed to expose students to the issues associated with administration and leadership in physical therapy practice. The administration portion focuses on practice management including human resources, financial issues, and legal/ethic practice. Leadership materials are framed in the construct of federal, state, and local regulation and the advancement of the profession. A variety of lecture, class activities, student-led discussions, and student projects will be used to explore various topics.*

PT840 – Lifestyle and Disability (2 credits): *This course discusses the impact of disability and health conditions on individuals, families, and society. Student group presentations will explore the political and societal history of persons with disability including a historical perspective of the media and assistive technology. Other student presentations will explore the individual experience and challenges of a person with a disability. A required reading will expose the student to family considerations and two guest presenters will share their personal accounts.*

The overall goal of the course is to challenge the student to consider the contextual, environmental, and personal factors impacting a person with a disability.

PT880 – Advanced Practice I (2 credits): This course will serve to provide the student with entry-level knowledge and skill for implementing advanced examination and intervention strategies. Students will be exposed to a variety of areas of Musculoskeletal Physical Therapy specialty practice through lecture and lab experiences that feature complex patient cases. Classes will incorporate a variety of active learning opportunities including lecture, lab, and individual/group problem solving.

PT881 – Client Management V (2 credits): The course is designed to explore special topics and issues with regard to the process of examination, evaluation, diagnosis, prognosis, and intervention used in providing physical therapy to clients with various diagnoses. Principles of evidence based practice, the relationship between impairments and function, and the importance of family/client education are emphasized throughout the course.

PT775 – Community Health Practicum (1 credit): This course is a service-learning course designed to address the American Physical Therapy Association (APTA) code of ethics call to address the health needs of society and to also address the core value of Social Responsibility. The IPTE Community Health Practicum introduces physical therapist students to concepts related to the role of physical therapists in prevention and the promotion of health, wellness, and fitness. Physical therapist students will have the opportunity to gain an understanding and appreciation of the relationship between health and wellness, physical therapist professionals, and the culture and needs of local social groups. Students will participate in ongoing programming at three sites (Freedom Baptist Church After School Physical Activity Program,

Widener Child Development Center Physical Activity Program, Stinson Towers Physical Activity Program.) Students will also participate in one bike helmet giveaway/brain safety fair.

Throughout the entire Community Health Practicum sequence, the student will engage in at least 30 hours of direct service-learning within the community.

PTXXX – Elective (2 credits)

PT887 – Advanced Practice IV: Sports PT

PT889 – Advanced Practice IV: Independent Study

PT890 – Advanced Practice IV: Geriatrics

PT891 – Advanced Practice IV: Pediatrics

PT892 – Advanced Practice IV: Rehab

PT893 – Advanced Practice IV: Manual PT

PT895 – Advanced Practice IV: Cardiopulmonary

DPTIII – Spring

PT865 – Clinical Practice III (6 credits): *This course entails a full-time assignment to a clinical setting for 10 weeks of practice with a clinical instructor. A variety of settings are selected for internships including hospitals, long-term care facilities, private practice settings, rehabilitation hospitals, home care agencies, and industrial health programs. Seminar will be scheduled on campus prior to and following clinical internships.*

PT866 – Clinical Practice IV (7 credits): *This course entails a full-time assignment to a clinical setting for 12 weeks of practice with a clinical instructor. A variety of settings are selected for internships including hospitals, long-term care facilities, private practice settings, rehabilitation*

hospitals, home care agencies, and industrial health programs. Seminar will be scheduled on campus prior to and following clinical internships.

PT800 – Comprehensive Exam (1 credit): This course is composed of the preparation and administration of a comprehensive exam, a culminating experience that reflects mastery of the didactic component of the entry-level physical therapy curriculum. The examination is 3.5 hours in duration and is comprised of three sets of 50 multiple choice questions.

Appendix 6: Primary Study Consent Forms



MEMORANDUM

To: Mary Anne Riopel, PT, DPT
HPD – College of Health Care Sciences

From: David Thomas, M.D., J.D. *WHS for Dr. Thomas*
Chair, Institutional Review Board

Date: November 12, 2014

Re: *Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students* – NSU IRB No. 10281410Exp.

I have reviewed the revisions to the above-referenced research protocol by an expedited procedure. On behalf of the Institutional Review Board of Nova Southeastern University, *Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students* is approved in keeping with expedited review category #6 and #7. Your study is approved on **November 10, 2014** and is approved until **November 9, 2015**. You are required to submit for continuing review by **October 9, 2015**. As principal investigator, you must adhere to the following requirements:

- 1) **CONSENT:** You must use the stamped (dated consent forms) attached when consenting subjects. The consent forms must indicate the approval and its date. The forms must be administered in such a manner that they are clearly understood by the subjects. The subjects must be given a copy of the signed consent document, and a copy must be placed with the subjects' confidential chart/file.
- 2) **ADVERSE EVENTS/UNANTICIPATED PROBLEMS:** The principal investigator is required to notify the IRB chair of any adverse reactions that may develop as a result of this study. Approval may be withdrawn if the problem is serious.
- 3) **AMENDMENTS:** Any changes in the study (e.g., procedures, consent forms, investigators, etc.) must be approved by the IRB prior to implementation.
- 4) **CONTINUING REVIEWS:** A continuing review (progress report) must be submitted by the continuing review date noted above. Please see the IRB web site for continuing review information.
- 5) **FINAL REPORT:** You are required to notify the IRB Office within 30 days of the conclusion of the research that the study has ended via the IRB Closing Report form.

The NSU IRB is in compliance with the requirements for the protection of human subjects prescribed in Part 46 of Title 45 of the Code of Federal Regulations (45 CFR 46) revised June 18, 1991.

Cc: Dr. Bini Litwin
Dr. M. Samuel Cheng
Mr. William Smith

Institutional Review Board
3301 College Avenue • Fort Lauderdale, Florida 33314-7796
(954) 262-5369 • Fax: (954) 262-3977 • Email: irb@nsu.nova.edu • Web site: www.nova.edu/irb



NOVA SOUTHEASTERN UNIVERSITY
Health Professions Division
College of Health Care Sciences
Physical Therapy Department

NOVA SOUTHEASTERN UNIVERSITY
Institutional Review Board
Approval Date: NOV 10 2014
Continuing Review Date: NOV 09 2015

Student Consent Form for Participation in the Research Study Entitled "Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students"

Funding Source: None.

IRB protocol #:

Principal investigator(s):
Mary Anne Riopel, PT, DPT
3307 North Broad Street, Jones 611
Philadelphia, PA 19140
(215) 707-5733

Co-investigator(s)
Bini Litwin, PT, DPT PhD
3200 South University Drive
Fort Lauderdale, FL 33328
(954) 262-1274

For questions/concerns about your research rights, contact:
Human Research Oversight Board (Institutional Review Board or IRB)
Nova Southeastern University
(954) 262-5369/Toll Free: 866-499-0790
IRB@nsu.nova.edu

Site Information:
Chester Community Physical Therapy Clinic
2129 Providence Avenue
Chester, PA 19103
Phone Number: (610) 499-4585

What is the study about?

This is a research project to gather information about the impact of standardized patient (SP) feedback on physical therapist (PT) student performance during medical history interviews with a SP. You will perform two medical histories for 15-20 minutes using two standardized case scenarios followed by written and/or verbal feedback from the SP for each case.

Why are you asking me?

You are being asked to participate in this study since you are a 2nd year PT student enrolled in the physical therapy program at Widener University, have not had experience with SPs, and you have not completed your full time clinical rotations. The approximate number of PT student subjects is 35-44. The approximate number of SP participants will be approximately 4.

Initials: _____ Date: _____

Page 1 of 3

3200 South University Drive • Fort Lauderdale, Florida 33328-2018
(954) 262-1662 • 800-356-0026, ext. 21662 • Fax: (954) 262-1783 • www.nova.edu/pt

College of Osteopathic Medicine • College of Pharmacy • College of Optometry • College of Health Care Sciences
College of Medical Sciences • College of Dental Medicine • College of Nursing

What will I be doing if I agree to be in the study?

You will perform two 15-20 minute medical interviews of a SP with 10 minutes to review the case prior to the interview. You will use two different case scenarios to complete 1 medical interview in a morning session and a different medical interview later in the same day. You will interview 2 different SPs for these medical interviews. The feedback provided by the SP will be confidential and provided directly to you by the SP after each medical interview. The primary investigator may be an observer during the data collection. You will also be asked to fill out a questionnaire on 3 occasions which is anticipated to take 20-30 minutes to complete for each of the 3 times and will complete a journal reflecting on your SP experience after the medical interview SP session and during your clinical internship. The journal will take 15-20 minutes for you to complete. Within 7 days of the SP session, you will be asked to participate in a group discussion of your SP experience. The group discussion will be facilitated by experienced researchers not associated with this study.

Is there any audio or video recording?

This research project will include audio recording of the group discussion session.

What are the dangers to me?

This study poses no more than minimal risk to you. You may experience some minor emotional anxiety in completing the medical interviews and participating in the group discussion. There is the possibility of a loss of subject confidentiality of the feedback provided and the questionnaires and surveys completed by you. Participation in this study will not impact your grades in the PT program at Widener University. The procedures or activities in this study may have unknown or unforeseeable risks. If you have any questions about the research, your research rights, or have a research-related injury, please contact Mary Anne Riopel and/or Bini Litwin at the numbers noted above. You may also contact the IRB at the numbers indicated above with questions as to your research rights.

Are there any benefits for taking part in this research study?

There may be a minimal benefit for participation in this study as you may learn from participating in the SP medical interviews, completing the reflective surveys and questionnaires, and from the feedback provided.

Will I get paid for being in the study? Will it cost me anything?

You will be not be paid for participation in this study. There are no costs to you for participating in this study.

How will you keep my information private?

All information obtained in this study is strictly confidential unless disclosure is required by law. The feedback data will be stored for 36 months in the investigator's office in a locked cabinet and then destroyed. The questionnaires and written reflections will also

Initials: _____ Date: _____


NOVA UNIVERSITY
Institutional Review Board
Approval Date: NOV 10 2014
Continuing Review Date: NOV 09 2015

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be stored on a computer hard drive and then destroyed. The SP feedback, questionnaires, and written reflections will remain confidential and will only be available for review by the IRB, regulatory agencies, the investigator, the SP, the interviewer, and the co-investigator.

What if I do not want to participate or I want to leave the study?

You have the right to leave this study at any time or refuse to participate. If you do decide to leave or you decide not to participate, you will not experience any penalty or impact on your grades. If you choose to withdraw, any information collected about you **before** the date you leave the study will be kept in the research records for 36 months from the conclusion of the study but you may request that it not be used. This request should be made in writing to the primary investigator

Other Considerations:

If significant new information relating to the study becomes available, which may relate to your willingness to continue to participate, this information will be provided to you by the investigators.

Voluntary Consent by Participant:

By signing below, you indicate that


- this study has been explained to you
- you have read this document or it has been read to you
- your questions about this research study have been answered
- you have been told that you may ask the researchers any study related questions in the future or contact them in the event of a research-related injury
- you have been told that you may ask Institutional Review Board (IRB) personnel questions about your study rights
- you are entitled to a copy of this form and after you have read and signed it, you will have voluntarily agreed to participate in the study "Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students"

Participant's Signature: _____ Date: _____

Participant's Name: _____ Date: _____

Signature of Person Obtaining Consent _____

Date: _____


NOVA UNIVERSITY
Institutional Review Board
Approval Date: NOV 10 2014
Continuing Review Date: NOV 09 2015
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Initials: _____ Date: _____



NOVA SOUTHEASTERN UNIVERSITY
 Health Professions Division
 College of Health Care Sciences
 Physical Therapy Department

NOVA SOUTHEASTERN UNIVERSITY
 Institutional Review Board
 Approval Date: NOV 10 2014
 Continuing Review Date: NOV 09 2015

Standardized Patient Surrogate Actor Consent Form for Participation in the Research Study Entitled "Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students"

Funding Source: None.

IRB protocol #:

Principal investigator(s):
 Mary Anne Riopel, PT, DPT
 3307 North Broad Street, Jones 611
 Philadelphia, PA 19140
 (215) 707-5733

Co-investigator(s)
 Bini Litwin, PT, DPT PhD
 3200 South University Drive
 Fort Lauderdale, FL 33328
 (954) 262-1274

For questions/concerns about your research rights, contact:
 Human Research Oversight Board (Institutional Review Board or IRB)
 Nova Southeastern University
 (954) 262-5369/Toll Free: 866-499-0790
IRB@nsu.nova.edu

Site Information:
 Widener University
 Chester Community Physical Therapy Clinic
 2129 Providence Avenue
 Chester, PA 19103
 Phone Number: (610) 499-4585

What is the study about?

This is a research project to gather information about the use of standardized patient feedback provided to physical therapist students. You will act as a SP (actor) to portray a standardized case scenario and then assess professional behavior in physical therapist (PT) students enrolled in a university physical therapy program.

Why are you asking me?

You are being asked to participate in this study since you live in the Philadelphia region and you have experience portraying standardized patient scenarios in a health care education environment. The approximate number of PT student subjects is 35-44. The approximate number of SP participants will be 4.

What will I be doing if I agree to be in the study?

Initials: _____ Date: _____

Page 1 of 3

3200 South University Drive • Fort Lauderdale, Florida 33328-2018
 (954) 262-1662 • 800-356-0026, ext. 21662 • Fax: (954) 262-1783 • www.nova.edu/pt

College of Osteopathic Medicine • College of Pharmacy • College of Optometry • College of Health Care Sciences
 College of Medical Sciences • College of Dental Medicine • College of Nursing

You will act as a surrogate patient for PT student(s) performing a 15-20 minute medical interview. You will participate in 8 hours of testing per day for 2 days for a total of up to 16 hours. You will be trained for 2 hours in the use of a questionnaire to rate PT student professional behavior prior to use. You will also be trained to portray two standardized patient case scenarios for 6 hours prior to the interview conducted by the students. Using a questionnaire, you will rate the PT student on their performance after the medical interview and provide a copy of this questionnaire to the students. You may also provide verbal feedback on professional behavior to a selected group of approximately 10-12 students. If verbal feedback is provided, this will be provided over a period of 10 minutes per student immediately following the student interview. There are no other procedures or follow-up required by you other than to complete the required trainings, complete the rating questionnaire for all students, and provide the verbal feedback to the selected physical therapist students as directed.

Is there any audio or video recording?

This research project will not include audio and video recording of the case scenario interviews.

What are the dangers to me?

This study poses no more than minimal risk to you. You may experience some minor emotional discomfort in rating the PT students. The procedures or activities in this study may have unknown or unforeseeable risks. If you have any questions about the research, your research rights, or have a research-related injury, please contact Mary Anne Riopel and/or Bini Litwin at the numbers noted above. You may also contact the IRB at the numbers indicated above with questions as to your research rights.

Are there any benefits for taking part in this research study?

There are no direct benefits.

Will I get paid for being in the study? Will it cost me anything?

You will be paid a fee of \$22 per hour for participation in this study and reimbursed \$15 per day for travel expenses. There are no costs to you for participating in this study.


How will you keep my information private?

All information obtained in this study is strictly confidential unless disclosure is required by law. The completed questionnaires will be stored for 36 months in the investigator's office in a locked cabinet and then destroyed. The questionnaires will remain confidential and will only be available for review by the IRB, regulatory agencies, the investigator, and the co-investigator.

What if I do not want to participate or I want to leave the study?

You have the right to leave this study at any time or refuse to participate. If you do decide to leave or you decide not to participate, you will not experience any penalty or

Initials: _____ Date: _____


NOVA EDUCATION
Institutional Review Board
Approval Date: NOV 10 2014
Continuing Review Date: NOV 09 2015

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loss of services you have a right to receive. If you choose to withdraw from the study, any information collected about you **before** the date you leave the study will be kept by the primary investigator for 36 months from the conclusion of the study but you may request that it not be used. This request should be made in writing to the primary investigator.

Other Considerations:

If significant new information relating to the study becomes available, which may relate to your willingness to continue to participate, this information will be provided to you by the investigators.

Voluntary Consent by Participant:

By signing below, you indicate that


- this study has been explained to you
- you have read this document or it has been read to you
- your questions about this research study have been answered
- you have been told that you may ask the researchers any study related questions in the future or contact them in the event of a research-related injury
- you have been told that you may ask Institutional Review Board (IRB) personnel questions about your study rights
- you are entitled to a copy of this form after you have read and signed it and have voluntarily agreed to participate in the study entitled "Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students"

Participant's Signature: _____ Date: _____

Participant's Name: _____ Date: _____

Signature of Person Obtaining Consent _____

Date: _____


Institutional Review Board
Approval Date NOV 10 2014
Continuing Review Date: NOV 09 2015

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Office for Human Subjects Protections
Institutional Review Board
Medical Intervention Committees A1 &
A2
Social and Behavioral Committee B
Unanticipated Problems Committee

Student Faculty Conference
Center
3340 N Broad Street - Suite
304
Philadelphia, Pennsylvania
19140
Phone: 215.707.3390
Fax: 215.707.9100
e-mail: irb@temple.edu

PI: RIOPEL, MARY **Date: 20-Nov-2014**
Committee: B BEHAVIORAL AND SOCIAL SCIENCES
Protocol Number: 22620
Project Title: [IAA] Effects of Standardized Patient (SP) Feedback on Professional Behaviors in
Physical Therapist Students

Nova Southern University is the IRB of record on this protocol. Since the Nova Southern University is the IRB of record, consent forms are not enclosed. All post-approval items should be sent directly to the Nova Southern University's IRB.

Please contact the IRB at (215) 707-3390 if you have any questions.



Memorandum

To: Mary Anne Riopel & Ellen Erdman

From: Robert Wellmon, PT, PhD, NCS
Vice-chairperson & Secretary
Widener University Institutional Review Board

Date: December 12, 2014

RE: **Protection of Rights of Human Subjects Review**
(IRB #49-15) Effects of Standardized Patient Feedback on Professional Behaviors in Physical
Therapy Students

This letter serves to inform you that your research application has been reviewed and **approved** by the Widener University Institutional Review Board (IRB) for the protection of the rights of human subjects. You may begin data collection as proposed in your application.

The authorization to solicit participants for this study is in effect for one year from the date of approval contained in this letter and is eligible for renewal or extension. The Widener University IRB must receive continuing review requests no later than 14 days prior to the meeting date before the expiration of approval to be placed on the IRB agenda. This form can be found on the IRB website www.widener.edu/irb. Should you fail to attain approval to continue the study prior to the expiration date, all research activity must cease until an approval to extend the study is obtained.

If, for any reason, the approved research data collection method changes, regardless of how minor, except to eliminate apparent immediate hazards to subjects, you are required to notify the IRB, in writing. Please, remember that the IRB and Widener University accept no responsibility for liabilities associated with this study. Ultimately, responsibility rests with the principle investigator(s).

Upon completion of the study, a final written report of the research is to be submitted to the IRB. This form can be found on the IRB website www.widener.edu/irb. The members of the IRB extend their best wishes for your successful completion of this research project. If you have any questions, please e-mail me at rwellmon@mail.widener.edu or call 610-499-1295.

Robert Wellmon, PT, PhD, NCS

Cc: Dr. Barbara Patterson

Widener University, One University Place, Chester, PA 19013-5792
t: 610-499-4106 f: 610-499-4108 www.widener.edu



NOVA SOUTHEASTERN UNIVERSITY
Institutional Review Board

MEMORANDUM

To: Mary Anne Riopel, PT, DPT
HPD – College of Health Care Sciences

From: Matthew Seamon, JD, PharmD *RQ for M8.*
Chair, Institutional Review Board

Date: January 27, 2015

Re: *Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students* —NSU IRB Protocol No. 10281410Exp.

I have reviewed the amendments to the above-referenced research protocol by an expedited procedure. On behalf of the Institutional Review Board of Nova Southeastern University, the following amendments to *Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students* are approved:

- **Participants will receive a \$25 payment for completing the standardized patient case scenario. A gift card of \$10 for survey completion will be provided.**

Please note that this does not affect the continuing review date for this protocol.

Cc: Dr. Bini Litwin
Dr. M. Samuel Cheng
Mr. William Smith

3301 College Avenue • Fort Lauderdale, Florida 33314-7796
(954) 262-5369 • Fax: (954) 262-3977 • Email: irb@nova.edu • Web site: www.nova.edu/irb

You will perform two 15-20 minute medical interviews of a SP with 10 minutes to review the case prior to the interview. You will use two different case scenarios to complete 1 medical interview in a morning session and a different medical interview later in the same day. You will interview 2 different SPs for these medical interviews. The feedback provided by the SP will be confidential and provided directly to you by the SP after each medical interview. The primary investigator may be an observer during the data collection. You will also be asked to fill out a questionnaire on 3 occasions which is anticipated to take 20-30 minutes to complete for each of the 3 times and will complete a journal reflecting on your SP experience after the medical interview SP session and during your clinical internship. The journal will take 15-20 minutes for you to complete. Within 7 days of the SP session, you will be asked to participate in a group discussion of your SP experience. The group discussion will be facilitated by experienced researchers not associated with this study.

Is there any audio or video recording?

This research project will include audio recording of the group discussion session.

What are the dangers to me?

This study poses no more than minimal risk to you. You may experience some minor emotional anxiety in completing the medical interviews and participating in the group discussion. There is the possibility of a loss of subject confidentiality of the feedback provided and the questionnaires and surveys completed by you. Participation in this study will not impact your grades in the PT program at Widener University. The procedures or activities in this study may have unknown or unforeseeable risks. If you have any questions about the research, your research rights, or have a research-related injury, please contact Mary Anne Riopel and/or Bini Litwin at the numbers noted above. You may also contact the IRB at the numbers indicated above with questions as to your research rights.

Are there any benefits for taking part in this research study?

There may be a minimal benefit for participation in this study as you may learn from participating in the SP medical interviews, completing the reflective surveys and questionnaires, and from the feedback provided.

Will I get paid for being in the study? Will it cost me anything?

You will be paid a monetary reward of \$25 upon completion of the SP medical interviews. You will receive a \$10 gift certificate after completion of the final questionnaires at the end of the study. There are no costs to you for participation in the study.

How will you keep my information private?

All information obtained in this study is strictly confidential unless disclosure is required by law. The feedback data will be stored for 36 months in the investigator's office in a

Initials: _____ Date: _____

Page 2 of 3

locked cabinet and then destroyed. The questionnaires and written reflections will also be stored on a computer hard drive and then destroyed. The SP feedback, questionnaires, and written reflections will remain confidential and will only be available for review by the IRB, regulatory agencies, the investigator, the SP, the interviewer, and the co-investigator.

What if I do not want to participate or I want to leave the study?

You have the right to leave this study at any time or refuse to participate. If you do decide to leave or you decide not to participate, you will not experience any penalty or impact on your grades. If you choose to withdraw, any information collected about you before the date you leave the study will be kept in the research records for 36 months from the conclusion of the study but you may request that it not be used. This request should be made in writing to the primary investigator

Other Considerations:

If significant new information relating to the study becomes available, which may relate to your willingness to continue to participate, this information will be provided to you by the investigators.

Voluntary Consent by Participant:

By signing below, you indicate that

- this study has been explained to you
- you have read this document or it has been read to you
- your questions about this research study have been answered
- you have been told that you may ask the researchers any study related questions in the future or contact them in the event of a research-related injury
- you have been told that you may ask Institutional Review Board (IRB) personnel questions about your study rights
- you are entitled to a copy of this form and after you have read and signed it, you will have voluntarily agreed to participate in the study "Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students"

Participant's Signature: _____ Date: _____

Participant's Name: _____ Date: _____

Signature of Person Obtaining Consent _____

Date: _____

Initials: _____ Date: _____



Memorandum

To: Mary Anne Riopel, PT, DPT, OCS & Ellen Erdman, PT, DPT, HPCS
From: Robert Wellmon, PT, DPT, PhD, NCS
Vice-chairperson & Secretary
Widener University Institutional Review Board
Date: January 23, 2015
RE: Protection of Rights of Human Subjects Review

This letter serves to inform you that your request for a change in protocol for the application “(IRB #49-15) Effects of Standardized Patient Feedback on Professional Behaviors in Physical Therapy Students” has been reviewed and **approved** by the Widener University Institutional Review Board (IRB) for the protection of rights of human subjects.

The original approval dates for your application remain in effect. IRB approval to solicit participants for the study will expire on December 9, 2015. The Widener University IRB must receive continuing review requests no later than 14 days prior to the meeting date before the expiration of approval to be placed on the IRB agenda. This form can be found on the IRB website www.widener.edu/irb. Should you fail to obtain approval to continue the study prior to the expiration date, all research activity must cease until an approval to extend the study is established.

If, for any reason, the approved research data collection method changes, regardless of how minor, except to eliminate apparent immediate hazards to subjects, you are required to notify the IRB, in writing. Please, remember that the IRB and Widener University accept no responsibility for liabilities associated with this study. Ultimately, responsibility rests with the principle investigator(s).

Upon completion of the study, a final written report of the research is to be submitted to the IRB. This form can be found on the IRB website www.widener.edu/irb. The members of the IRB extend their best wishes for your successful completion of this research project. If you have any questions, please email me at rhwelmon@mail.widener.edu or call 610-499-1295.

Robert Wellmon, PT, DPT, PhD, NCS

Cc: Dr. Barbara Patterson



NOVA SOUTHEASTERN UNIVERSITY
Institutional Review Board

MEMORANDUM

To: Mary Anne Riopel, PT, DPT
HPD – College of Health Care Sciences

From: Matthew Seamon, Pharm.D., JD *WAS for Dr. Seamon*
Chair, Institutional Review Board

Date: March 10, 2015

Re: *Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students* – NSU IRB No. 10281410Exp.

I have reviewed the amendments to the above-referenced research protocol by an expedited procedure. On behalf of the Institutional Review Board of Nova Southeastern University, the following amendments to *Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students* are approved:

- Addition of a 60 minute one-on-one interview during the clinical internship for a 4-6 student subsample

Please note that this does not affect the continuing review date for this protocol.

Cc: Dr. Bini Litwin
Dr. M. Samuel Cheng
Mr. William Smith



NOVA SOUTHEASTERN UNIVERSITY
 Health Professions Division
 College of Health Care Sciences
 Physical Therapy Department

NOVA UNIVERSITY
 Institutional Review Board
 Approval Date: NOV 10 2014
 Continuing Review Date: NOV 09 2015

Student Consent Form for Participation in the Research Study Entitled "Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students"

Funding Source: None.

IRB protocol #:

Principal investigator(s):
 Mary Anne Riopel, PT, DPT
 3307 North Broad Street, Jones 611
 Philadelphia, PA 19140
 (215) 707-5733

Co-investigator(s)
 Bini Litwin, PT, DPT PhD
 3200 South University Drive
 Fort Lauderdale, FL 33328
 (954) 262-1274

For questions/concerns about your research rights, contact:
 Human Research Oversight Board (Institutional Review Board or IRB)
 Nova Southeastern University
 (954) 262-5369/Toll Free: 866-499-0790
IRB@nsu.nova.edu

Site Information:
 Chester Community Physical Therapy Clinic
 2129 Providence Avenue
 Chester, PA 19103
 Phone Number: (610) 499-4585

What is the study about?

This is a research project to gather information about the impact of standardized patient (SP) feedback on physical therapist (PT) student performance during medical history interviews with a SP. You will perform two medical histories for 15-20 minutes using two standardized case scenarios followed by written and/or verbal feedback from the SP for each case.

Why are you asking me?

You are being asked to participate in this study since you are a 2nd year PT student enrolled in the physical therapy program at Widener University, have not had experience with SPs, and you have not completed your full time clinical rotations. The approximate number of PT student subjects is 35-44. The approximate number of SP participants will be approximately 4.

What will I be doing if I agree to be in the study?

Initials: _____ Date: _____

Page 1 of 3

3200 South University Drive • Fort Lauderdale, Florida 33328-2018
 (954) 262-1662 • 800-356-0026, ext. 21662 • Fax: (954) 262-1783 • www.nova.edu/pt

College of Osteopathic Medicine • College of Pharmacy • College of Optometry • College of Health Care Sciences
 College of Medical Sciences • College of Dental Medicine • College of Nursing

You will perform two 15-20 minute medical interviews of a SP with 10 minutes to review the case prior to the interview. You will use two different case scenarios to complete 1 medical interview in a morning session and a different medical interview later in the same day. You will interview 2 different SPs for these medical interviews. The feedback provided by the SP will be confidential and provided directly to you by the SP after each medical interview. The primary investigator may be an observer during the data collection. You will also be asked to fill out a questionnaire on 3 occasions which is anticipated to take 20-30 minutes to complete for each of the 3 times and will complete a journal reflecting on your SP experience after the medical interview SP session and during your clinical internship. The journal will take 15-20 minutes for you to complete. Within 7 days of the SP session, you will be asked to participate in a group discussion of your SP experience. The group discussion will be facilitated by experienced researchers not associated with this study. During the clinical internship, you may be asked to participate in a 60 minute one-on-one interview completed by the primary investigator.

Is there any audio or video recording?

This research project will include audio recording of the group discussion session and one-on-one interviews.

What are the dangers to me?

This study poses no more than minimal risk to you. You may experience some minor emotional anxiety in completing the medical interviews and participating in the group discussion. There is the possibility of a loss of subject confidentiality of the feedback provided and the questionnaires and surveys completed by you. Participation in this study will not impact your grades in the PT program at Widener University. The procedures or activities in this study may have unknown or unforeseeable risks. If you have any questions about the research, your research rights, or have a research-related injury, please contact Mary Anne Riopel and/or Bini Litwin at the numbers noted above. You may also contact the IRB at the numbers indicated above with questions as to your research rights.

Are there any benefits for taking part in this research study?

There may be a minimal benefit for participation in this study as you may learn from participating in the SP medical interviews, completing the reflective surveys and questionnaires, and from the feedback provided.

Will I get paid for being in the study? Will it cost me anything?

You will be not be paid for participation in this study. There are no costs to you for participating in this study.

How will you keep my information private?

All information obtained in this study is strictly confidential unless disclosure is required

Initials: _____ Date: _____

Page 2 of 3

by law. The feedback data will be stored for 36 months in the investigator's office in a locked cabinet and then destroyed. The questionnaires and written reflections will also be stored on a computer hard drive and then destroyed. The SP feedback, questionnaires, and written reflections will remain confidential and will only be available for review by the IRB, regulatory agencies, the investigator, the SP, the interviewer, and the co-investigator.

What if I do not want to participate or I want to leave the study?

You have the right to leave this study at any time or refuse to participate. If you do decide to leave or you decide not to participate, you will not experience any penalty or impact on your grades. If you choose to withdraw, any information collected about you **before** the date you leave the study will be kept in the research records for 36 months from the conclusion of the study but you may request that it not be used. This request should be made in writing to the primary investigator

Other Considerations:

If significant new information relating to the study becomes available, which may relate to your willingness to continue to participate, this information will be provided to you by the investigators.

Voluntary Consent by Participant:

By signing below, you indicate that

- this study has been explained to you
- you have read this document or it has been read to you
- your questions about this research study have been answered
- you have been told that you may ask the researchers any study related questions in the future or contact them in the event of a research-related injury
- you have been told that you may ask Institutional Review Board (IRB) personnel questions about your study rights
- you are entitled to a copy of this form and after you have read and signed it, you will have voluntarily agreed to participate in the study "Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students"

Participant's Signature: _____ Date: _____

Participant's Name: _____ Date: _____

Signature of Person Obtaining Consent _____

Date: _____

Initials: _____ Date: _____

Page 3 of 3



Memorandum

To: Mary Anne Riopel, PT, DPT, OCS & Ellen Erdman, PT, DPT, HPCS
From: Robert Wellmon, PT, DPT, PhD, NCS
Vice-chairperson & Secretary
Widener University Institutional Review Board
Date: March 19, 2015
RE: Protection of Rights of Human Subjects Review

This letter serves to inform you that your request for a change in protocol for the application “(IRB #49-15) Effects of Standardized Patient Feedback on Professional Behaviors in Physical Therapy Students” has been reviewed and **approved** by the Widener University Institutional Review Board (IRB) for the protection of rights of human subjects.

The original approval dates for your application remain in effect. IRB approval to solicit participants for the study will expire on December 9, 2015. The Widener University IRB must receive continuing review requests no later than 14 days prior to the meeting date before the expiration of approval to be placed on the IRB agenda. This form can be found on the IRB website www.widener.edu/irb. Should you fail to obtain approval to continue the study prior to the expiration date, all research activity must cease until an approval to extend the study is established.

If, for any reason, the approved research data collection method changes, regardless of how minor, except to eliminate apparent immediate hazards to subjects, you are required to notify the IRB, in writing. Please, remember that the IRB and Widener University accept no responsibility for liabilities associated with this study. Ultimately, responsibility rests with the principle investigator(s).

Upon completion of the study, a final written report of the research is to be submitted to the IRB. This form can be found on the IRB website www.widener.edu/irb. The members of the IRB extend their best wishes for your successful completion of this research project. If you have any questions, please email me at rhwelmon@mail.widener.edu or call 610-499-1295.

Robert Wellmon, PT, DPT, PhD, NCS

Cc: Dr. Barbara Patterson

Standardized Patient Case A

Brief description:

The patient is a 60 year old man or woman coming for an initial physical therapy examination at an outpatient clinic. The patient twisted their right ankle 3 weeks ago while walking in grass in their yard. Patient has been in an Aircast and now has a referral from the orthopedist for physical therapy to address the stiffness, weakness, and pain in the injured ankle. Patient also has a history of high blood pressure and anxiety.

Case purpose:

This case is designed to create the opportunity for student physical therapists at the start of their 2nd year to be assessed in skills including medical history and patient education on diagnosis and/or treatment plan.

Case characteristics:

Skills assessed	YES	NO
1. Obtain history	X	
2. Perform physical exam		X
3. Interpret clinical material	X	
4. Clinical reasoning		X
5. Patient education	X	
6. Professional behavior	X	

- Area of practice/curriculum: outpatient orthopedic
- Age range of patient: >55 years old
- Gender: male or female
- Acuity: sub-acute (3 weeks following injury)
- Positive findings:
 - Right ankle stiffness and right ankle weakness – “My right ankle feels a bit stiff and weak”
 - Right ankle pain – located on outside of ankle – “My ankle does hurt especially with walking”
 - Impaired standing and walking balance- “Feel a little off balance at times but do not fall”
- Other clinical material: referral from orthopedist, medical history information sheet

Presenting complaint/reason for visit and opening statement:

“I twisted my ankle while walking on the grass.”

History of present illness:

- Name, age, gender can be flexible to accommodate to availability of SPs, or we can specify it if needed
- Reason for coming to therapy: patient was given a referral to P.T. for evaluation and treatment of the right ankle after a sprain sustained 3 weeks ago

- Time sequence: patient twisted ankle while walking on grass at his/her home 3 weeks ago. The ankle swelled immediately. Saw an orthopedist the following day who took x-rays which were negative, prescribed an Aircast and rest. Patient did not use any assistive device (cane, walker, etc.) to walk other than the Aircast. At a follow-up with the orthopedist 2 days ago (3 weeks post-injury), the Aircast was discontinued and the physician cleared the patient to start physical therapy for pain, weakness, and stiffness.
- Patient language: lay language, appropriate to college-educated person not working in the medical field
- Patient is a principal in an elementary school
- Patient's reaction to events: patient is anxious and mildly frustrated, as he/she did not anticipate the residual deficits that would persist after using the Aircast.
- Patient is annoyed to be answering medical questions again
- Patient is anxious about physical therapy in general
-

Past medical history:

Intake forms (referral and medical screening form) will be completed for the patient and will be made available to student physical therapist several minutes prior to the examination.

Medical history:

- Hypertension (if prompted, the patient can reveal the following: 10 years history and blood pressure is controlled when taking medicine)
- Does not offer having anxiety unless asked

Family history:

- Patient's father: died of heart attack at age 75
- Patient's mother: living, has history of stroke

Meds list:

Hypertension medication: Norvasc and Zestril. The patient does not remember dosage.

Anxiety medication: Xanax as needed

Patient admits difficulty taking hypertension meds inconsistently, as changes in the co-pay have made them much more expensive. Takes Xanax at least once per day.

Exercise: patient states he/she enjoys gardening and exercises occasionally (walks 2-3 times per month – weather permitting), but is limited by work schedule

Complaints:

Pain levels and description – If asked to rate pain, patient reports right ankle pain rated 6/10 when walking and 3/10 at rest. Patient describes pain as dull over outside ankle.

Stiffness – If asked to discuss stiffness, patient reports “mild tightness”.

Weakness – If asked to discuss weakness, patient reports “The right ankle is just not as strong as the other but it is not too bad”

If asked how ankle was twisted - “I just misstepped in the grass. I don’t remember if it turned a certain way or how it happened.”

If asked about swelling – “It did swell immediately and this lasted for the 1st week but it is fine now.”

If asked about any other symptoms – “Not that I can remember”

Daily Activities “Really hard to walk 1-2 blocks, climb stairs, squat and clean house”

Social history and habits:

Patient lives with spouse in a 2-story house. They have 2 grown children, one who lives close by with their spouse, and one who is attending college. The patient’s spouse works full-time in a management position, also with long hours. Patient is a social drinker.

Patient general appearance and manner:

Patient is in casual clothing, well-spoken, “normal” weight to slightly overweight, answers questions with some impatience and nervousness.

Communication/counseling challenges:

Challenge question, following 5 minutes of interview: “I am sorry but I feel like I keep answering the same questions. The doctor already asked me this.”

Challenge question following 10 minutes of interview “My friend told me that physical therapy can make it hurt worse. What exactly are you going to do?”

SP Physical Description and Exclusions:

Patient may be male or female, approximately 60 years old, no scarring or atypical appearance of distal legs, glasses are ok

Incorporation of clinical material other than the patient

- Referral from orthopedist: “Evaluate and treat: right ankle pain”
- Medical history form
- Provide Documentation form suitable for outpatient clinic

Standardized Patient Case B

Brief description:

The patient is a 55 year old man or woman coming for an initial physical therapy examination at an outpatient clinic. The patient reports thigh pain which began 4 weeks ago. Patient does not report an injury and now has a referral from the orthopedist for physical therapy to address back pain. Patient also has a history of type 2 diabetes and depression.

Case purpose:

This case is designed to create the opportunity for student physical therapists at the start of their 2nd year to be assessed in skills including medical history and patient education on diagnosis and/or treatment plan.

Case characteristics:

Skills assessed	YES	NO
1. Obtain history	X	
2. Perform physical exam		X
3. Interpret clinical material	X	
4. Clinical reasoning		X
5. Patient education	X	
6. Professional Behavior	X	

- Area of practice/curriculum: outpatient orthopedic
- Age range of patient: 55 years old or older
- Gender: male or female
- Acuity: sub-acute (onset 4 weeks ago)
- Positive findings: Thigh pain, weakness in legs
 - “Legs feel slightly weak and I have pain in my thighs”
- Other clinical material: referral from orthopedist, clinical intake/demographic/medical history information sheet

Presenting complaint/reason for visit and opening statement:

“I started having thigh pain 1 month ago. I have no idea why”

History of present illness:

- Name, age, gender can be flexible to accommodate to availability of SPs, or we can specify it if needed
- Reason for coming to therapy: patient was given a referral to P.T. for evaluation and treatment of the lumbar spine
- Time sequence: patient woke up in morning 4 weeks ago with thigh pain in both legs. Saw an orthopedist last week since pain did not improve. The physician took x-rays (patient does not know what type) and referred patient to start physical therapy for low back pain.

- Patient language: lay language, appropriate to high school educated person not working in the medical field
- Patient is in sales position selling paper products to stores.
- Patient's reaction to events: patient is mildly depressed and he/she does not understand why his/her thighs hurt. Patient is somewhat motivated, but expresses that he/she does not know what to expect from physical therapy and does not understand what is wrong with his/her legs.
- Patient responds readily to questions related to legs but responds with mild impatience to questions about back and may comment that his/her back does not hurt.

Past medical history:

Intake forms (medical screening form, demographics, and functional ability questionnaire) will be completed for the patient and will be made available to student physical therapist several minutes prior to the examination.

Medical history:

- Type II diabetes (if prompted, the patient can reveal the following: 5 years history and does not know if it is controlled; does not know A1C levels or blood glucose levels)
- Does not offer depression as a medical problem

Family history:

- Patient's father: living, has diabetes and "problems walking"
- Patient's mother: died of breast cancer at age 65

Meds list:

Diabetes medications: (Taking Glucophage) - patient does not remember dosage or name.

Depression medication: Prozac (admits only taking when "blue")

Exercise: patient states he/she does not exercise.

Complaints:

Pain - If asked to rate pain, patient reports constant thigh pain ranging from 6-8/10. Pain is throbbing and is located in the front of both thighs.

Numbness/tingling – Patient denies any numbness or tingling in legs

Weakness – “My legs feel a little weak”

Stiffness – “I don't feel any stiffness”

If asked about any other symptoms – “Not that I can remember”

Daily Activities – “Have a lot of trouble walking, sitting, or standing long time. Can't vacuum my house”

Social history and habits:

Patient lives with spouse in a 1-story apartment. They have 1 grown child who is attending college. The patient's spouse is unemployed after working many years as a chef. Patient's diet during the workday and at home includes a lot of take-out and restaurant meals. Patient does not drink.

Patient general appearance and manner:

Patient is in casual clothing, "normal" weight to slightly overweight, answers questions with some hesitation.

Communication/counseling challenges:

Challenge question, following 5 minutes of interview: "I don't understand why you are asking these questions about my back. I have pain in my legs"

Challenge question after 10 minutes of interview, "I am sorry but this is taking a long time. The doctor told me that I just needed some massage from the physical therapist."

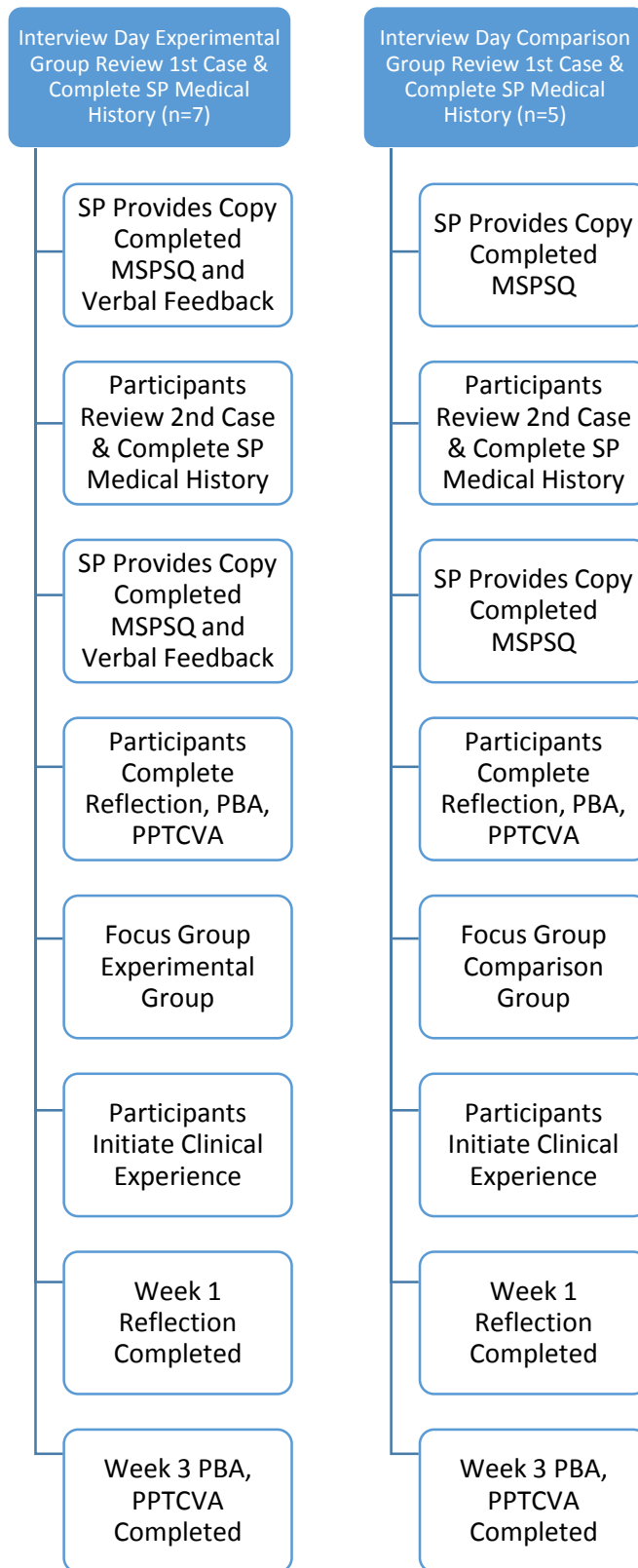
SP Physical Description and Exclusions:

Patient may be male or female, approximately 55 years old, glasses are ok

Incorporation of clinical material other than the patient

- Intake form – completed and given to therapist immediately before exam
- Referral from orthopedist: "Evaluate and treat: low back pain"
- Documentation form suitable for outpatient clinic

Appendix 9: Study Flow After Randomization



Appendix 10: Student Medical History Documentation Form

MEDICAL HISTORY DOCUMENTATION FORM

Date of Evaluation: _____ Referring Physician: _____

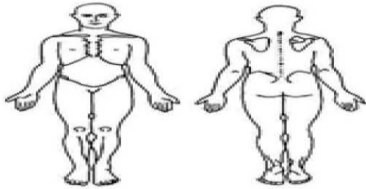
Date of Injury: _____ Medical Diagnosis: _____

Patient Name: _____ Date of Birth: _____

History of Present Condition/Mechanism of Injury:

Current Medications: _____

Medical History: _____



Numeric Pain Rating Scale:

Current: _____/10

Average (Last 24 hours) _____/10

Range _____/10

Description: _____

Other Complaints _____

Aggravating Factors:

Easing Factors:

Prior Level of Function:

Current Level of Function:

Social History:

Patient Goals:

Case A Student Instructions

PRIOR TO THE CASE

You will be provided with a prescription and past medical history form for this case. You will have 10 minutes to review this material prior to seeing your patient.



DURING THE CASE

- You will complete a medical history and patient education for a standardized patient.
- You have been provided with a blank history form for your use in documenting the history.
- Your education should address what the patient should expect from therapy and potential benefits to be achieved from the therapy.
- You will have 20 minutes to complete both the history and the education.

*****DO NOT COMPLETE A PHYSICAL EXAMINATION*****



AFTER THE CASE

You will receive feedback from the standardized patient about your performance.

Please do not discuss your case with any of the participants of this study

Case B Student Instructions

PRIOR TO THE CASE

You will be provided with a prescription and past medical history form for this case. You will have 10 minutes to review this material prior to seeing your patient.



DURING THE CASE

- You will complete a medical history and patient education for a standardized patient.
- You have been provided with a blank history form for your use in documenting the history.
- Your education should address the benefits of physical therapy as well as concerns the patient may voice about their diagnosis.
- You will have 20 minutes to complete both the history and the education.

*****DO NOT COMPLETE A PHYSICAL EXAMINATION*****



AFTER THE CASE

You will receive feedback from the standardized patient about your performance.

Please do not discuss your case with any of the participants of this study

Appendix 12: Permission to Use Widener Facilities



Widener University

School of Human Service Professions
Institute for Physical Therapy Education

9/17/2014

Dr. Ming-Shun Samuel Cheng, PT, MS, ScD
Institutional Review Board for Research with Human Subjects
Nova Southeastern University
3200 South University Drive
Fort Lauderdale, FL 33328

Dear Dr. Cheng:

As the Pro Bono Services Coordinator of the Chester Community Physical Therapy Clinic, I am writing this letter to grant permission to Dr. Mary Anne Riopel to use our clinic facilities in Chester, Pennsylvania for a research study entitled "Effects of Standardized Patient (SP) Feedback on Professional Behaviors in Physical Therapist Students with an Analysis of Student Perspectives."

Please feel free to contact me if you require additional information.

Sincerely,

Jill D. Black

Jill D. Black, PT, DPT, EdD
Pro Bono Services Coordinator
Chester Community Physical Therapy Clinic
Widener University
jdblack@mail.widener.edu

Widener University, One University Place, Chester, PA 19013-5792
t: 610-499-1277 f: 610-499-1231 www.widener.edu

Instructions for Standardized Patients -- How to Give Feedback

What is feedback?

Following the interview by the student you will be asked to speak to the student on how it felt, as the patient you were portraying, to meet and be interviewed by them.

How does it work?

After the encounter the faculty member will speak first with the student about their work during it. After that they will invite the SP to speak directly to the student to give their feedback. You then speak of what the student did and how the patient, not you, felt about that. For example, you may say you, speaking for the patient, felt respected when the doctor explained why their pains were increasing. Or you may say that the patient was upset and confused when the doctor ended the encounter without saying what would happen next to help the patient.

Why is feedback helpful?

Such plain and direct speaking is unlikely to be heard from a real patient, and, if it were a negative comment on the doctor's behavior or nature, it could be very discouraging for a student. You are to be nonjudgmental, but to be honest and forthright in your comments. Giving feedback is a very important way in which medical educators use Standardized Patients. It allows a sharing of information and of honest feelings that is difficult to do in any other way. As an SP it is your responsibility to make sure the feedback does just that.

How should feedback be given?

You should always be speaking directly to the student, addressing her or him in the second person. Always your tone should be pleasant and professional. No matter what the student has done you should never express annoyance, upset, or any negative judgment in your manner.

What does it mean "speaking as the patient?"

The students know that they were interviewing not you but the patient you were portraying. However, you should be able to understand how the patient would feel while she or he was being interviewed. By knowing the patient, what they have been through and how they think and feel, you should be able to express the honest reactions of that patient.

How is the feedback phrased?

Always it should have the following general structure:

“When you said (or did) that, speaking as that patient, I felt this as a result.”

Or, if speaking of the patient in the third person:

“I think the patient would have felt like this, because of what you said.”

The idea here is that it addresses specific behavior that the student displayed. For example, you may say: “When you told me, as the patient/”Susan Smith”, that I had done the right thing in speaking up about my worries over what would happen if my husband found me, the patient felt very much supported.” This points out something specific the student did, and how the patient responded to it. The message will be heard by the student, and they will be encouraged to follow such behavior. If you say something like “When I, as the patient, said I had used drugs, I saw you back away from me, and I felt avoided and hurt, even though you didn't say anything,” the student will hear the message that their body language can make a big difference in how their patient feels. With this type of feedback the student can be helped to understand how their behavior affects a patient, and they can change that behavior to improve the relationship they build with the patient. There must always be a “that”, the thing that the student did, and a “this,” what the patient felt as a result.

Alternative ways of stating feedback can be:

“I think Hank Jones would have felt *this way* when you did *that*.”

“*This thing* that you did made the patient feel *this way*.”

“When *this* happened, *this* is what the patient felt as a result,”

“At *this point* in the interview, *this* is what the patient was feeling.”

Or anything that retains this simple linkage:

A specific student behavior made the patient feel a certain way.

What things should not be said in feedback? And why shouldn't we say them?

You must not say something like “You should do this/you shouldn't do that.” It is not for the SP to instruct the student on what they should or should not do. The Preceptor who is present may wish to instruct them, but you must not.

You should never say things like: “You did a good job (or, a bad job) at interviewing me.” It is not for the standardized patient to judge these things and comment. As well, it does not tell the student what they did that they should, or should not have done. It is not helpful, because they don't know what they should, or should not, change as a result. Nor, for the same reason, should you ever say something like “You are a good student (or a bad student)” or “You will make a good (or bad) doctor.” Speak of what they did, not who they are. Never judge the person, never judge the behavior. Simply describe the behavior and explain honestly about how the patient felt.

You should not address the content of the interview, such as stating what information was or was not obtained. That is not a good use of the opportunities that an SP presents.

You must never say “When you did that, I felt that you were” That does not present the patient’s feelings, but only an assumption on the part of the SP as to what the student was doing, or trying to do. It is easy for a student to simply negate it by saying “Oh, but you (the SP) got it wrong, that wasn’t what I was trying to do. You don’t understand.” And they may be right. This type of comment by the SP can also easily become judgmental. Remember that this is about helping the student, not about giving the SP a chance to vent their own emotions or attitudes.

What feedback should be given?

There are certain aspects of the interview that you **should** look for and comment on in feedback:

- What did the student do at the introduction?
- Was the patient guided through the interview? How?
- Describe the language used by the student. Did it help or hinder communication?
- Did the student recognize the patient’s pain, discomfort, anger, grief, confusion?
- What happened when the SP delivered the “challenge?”
- What did you notice about the student’s positioning, body language, eye contact?
- Did the student encourage the patient to talk? How?
- Was anything done that appeared to be judgmental of the patient, either positive or negative?
- What did the student do at closure?
- Did the student do anything that was particularly pleasing or particularly upsetting to the patient?

What sorts of feelings might be expressed?

Any that are honest. They can be both positive or negative feelings, and in fact for most interviews there is likely to be some of both called for that can and should be expressed when the feedback is given. If possible, start with something positive so as to encourage the student and engage their attention, and finish off with something positive too, so as to give that supportive tone to the whole session. But do say the negative things too, if they are honest. The following lists may assist you, but don't feel you have to use these or use only these:

Negative feelings

Judged	not listened to
Upset	put down
Worried	ignored
Disbelieved	disrespected
Annoyed	confused

Positive feelings

supported	relieved
relaxed	believed
joyful	directed
listened to	cared for
involved	respected

How do you finish?

If possible, finish with something positive. Then tell the student you hoped that would be helpful for them.

Summary

Giving Feedback: *What you should do:*

Be honest.

Speak of the student's behavior.

Speak of the patient's feelings.

Link the behavior to the feelings.

Be specific.

Be non-judgmental.

Be non-evaluative.

Include the good and the advanced

Remember there is a lot you can talk about.

Giving Feedback: *What you should not, **MUST NOT, do:***

Say: "I felt that you were"

Tell the student what information they did or did not get.

Say: "You did a good job or you did a bad job."

Speak of the student's personality.

Say you have nothing to say.

Tell the student what they should or should not have done.

Be dishonest

Appendix 14: Tables

Table 21: MSPSQ Reliability Coefficients

	Chi Square	Kendall's <i>W</i>
Being upfront and candid to the patient	57.31	0.478
Introducing themselves; greeting the patient warmly; being friendly, never rude	35.00	0.292
Maintaining eye contact and demonstrating respectful body language	38.51	0.344
Treating the patient like they are on the same level; never talking down to the patient	34.59	0.288
Letting the patient tell their story; listening carefully, not interrupting the patient while they are talking	61.43	0.512
Showing interest in the patient as a person; asking thoughtful questions; not acting bored or ignoring what the patient has to say	46.88	0.391
Discussing options with the patient, asking the patient's opinion, and offering choices	69.24	0.577
Encouraging the patient to ask questions, answering patient questions clearly, never avoiding patient questions or lecturing them	48.61	0.405
Explaining the specifics of the patient's problems – how and why they occurred and what to expect next	32.94	0.294
Using words the patient can understand when explaining their problems and treatment, explaining any technical medical terms in plain language	12.38	0.111
Acknowledging the patient's feelings about their problems and the impact of the patient's problems on their life	55.47	0.462
The interview flow made sense and the questions followed logically	55.89	0.466
The student remained calm when the patient challenged him/her	42.72	0.381
Thinking of the entire encounter, please rate the student on professional behavior	52.17	0.435

Table 22: MSPSQ Between Groups Between Case A and Case B

	Experimental (n = 6)	Comparison (n = 5)	p value
Case A Mean Aggregate Scores (SD)	66.50 (3.08)	62.20 (5.81)	.141 ^a
Case B Mean Aggregate Scores (SD)	60.50 (8.60)	55.80 (11.17)	.522 ^a
Within Subject Differences	.078 ^b	.225 ^b	

^a Mann Whitney U

^b Wilcoxon Signed Ranks

$\alpha = .05$

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