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Clinical Instructors’ Perceptions of Behaviors That Comprise Entry-Level Clinical Performance in Physical Therapist Students: A Qualitative Study

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Background and Purpose
The purpose of this study was to qualitatively explore clinical instructors’ (CIs) perceptions of students’ behaviors that comprise entry-level clinical performance, as well as how those perceptions were integrated into their decision making.

Subjects
The participants were 21 physical therapists who were CIs for physical therapist students.

Methods
Using a grounded theory approach, we conducted interviews, asking the question, “What is it about students’ performance that makes you see them as entry-level therapists?” We determined common themes among the interviews and developed a schema to explain the decision-making process.

Results
Participants identified 7 attributes that, when demonstrated to a sufficient degree, illustrated to them students’ ability to practice at the entry level. Those attributes were knowledge, clinical skills, safety, clinical decision making, self-directed learning, interpersonal communication, and professional demeanor. Participants viewed these attributes in concert to form a subjective “gut feeling” that a student demonstrated entry-level performance. A final theme emerged suggesting a definition of entry-level performance as “mentored independence.”

Discussion and Conclusions
Participants reported evaluating students’ performance based on attributes similar to those suggested by the American Physical Therapy Association’s Physical Therapist Clinical Performance Instrument and previous research. However, subjectivity also was involved in their decision about whether students were able to practice at the entry level. Participants also concluded that entry-level students need not be independent in all clinical situations.
Determination of the level and adequacy of students’ clinical performance is a complex process that occurs in the context of a variety of clinic settings, types of patients, and experiences of both students and clinical instructors (CIs). It has been suggested that CIs determine students’ abilities from a general impression of their performance, considering execution of skills and demonstration of behaviors as a whole, rather than distinctively. In an attempt to standardize measurement of students’ clinical performance, the physical therapy profession has developed measurement tools for assessment of clinical skills and behaviors. The tools include the American Physical Therapy Association’s Physical Therapist Clinical Performance Instrument (CPI), the Abilities-Based Assessment (ABA), and the Mastery and Assessment of Clinical Skills (Blue MACS). The measurement tools have similarities in terms of the skills and behaviors deemed important to evaluate, and the expected outcome of the education process is labeled entry-level clinical performance. The definitions of entry-level performance provided by each of these measurement tools, however, are somewhat ambiguous.

The CPI delineates 24 evaluative criteria for behaviors and skills comprising all aspects of physical therapist students’ performance. Each behavior or skill is rated by placing a mark on a 100-mm visual analog scale (VAS), with “novice clinical performance” as the anchor on the left side of the scale and “entry-level performance” as the anchor on the right side. The CPI provides a definition of entry-level performance by characterizing an entry-level clinician as one who “utilizes critical thinking to make independent decisions concerning patient needs and provides quality care with simple or complex patients in a variety of clinical environments. . . . needs no guidance or supervision except when addressing new or complex problems.” The instructions for the CPI guide the assessor to consider the quality, consistency, and efficiency of behaviors and skills; the complexities of the environment and patients; and the amount of supervision or guidance required by the student.

The Blue MACS provides a list of 38 skills and 12 situational skills considered necessary for entry-level performance. Each skill is defined by key indicators identifying the behaviors that comprise the skill. Each key indicator is assessed as exceeding entry-level expectations, meeting entry-level expectations, needing more experience to reach the entry level, or needing improvement to reach the entry level. Entry level is defined as “the level of knowledge, skills, and professional behavior expected of a new graduate when entering the profession of physical therapy.” The ABA identifies 10 generic abilities believed to be necessary for physical therapist students. Sample behaviors serve to define the characteristics of the generic abilities at 4 levels: beginning, developing, entry level, or post-entry level. No overall definition of entry-level practice is provided.

Taken together, the CPI, Blue MACS, and ABA identify attributes and skills necessary for effective entry-level practice. In the United States, a common system for evaluation of physical therapist students’ clinical performance involves input from CIs from different settings in which the student has practiced over the course of his or her professional education. Using the CPI as an example, CIs are asked to indicate a student’s performance as a point on a continuum from the beginning to entry level for each of several behaviors deemed important to demonstrate in the clinical setting. Subjective comments also are included to support the “marks” provided by CIs. The education program faculty then make a decision about adequacy of a student’s performance given their own quantitative and qualitative criteria for each behavior and for the behaviors as a whole. Clinical instructors usually are aware of the metric used by the education program faculty, yet they do not make the ultimate decision about whether a student is at entry level and may proceed to graduation. It is likely, however, that they have an opinion about what comprises entry-level performance and, thus, influence students’ progression through an education program and their eventual status as a graduate.

Given differences in clinical environments, including characteristics of the setting, patients, CIs, and students, decisions regarding the sufficiency of the demonstrated behaviors and skills in relationship to entry-level practice may be somewhat subjective. Alexander noted that CIs frequently used heuristics to make an overall subjective determination of student performance, and Cross noted the frequent presence of a “halo effect” that affected how a CI rated a student. These authors each noted that due to the subjectivity of the observations, inaccurate representations of a student’s performance could be reported. Although these 2 studies are helpful in understanding some aspects of clinical evaluation, neither study explored the cognitive processes used by CIs to determine how they understood students to be demonstrating entry-level performance.

Understanding the characteristics that CIs look for, as well as how they put their observations together to form opinions about whether students have met the criteria for entry-level practice, may further clarify the definition of entry-level practice and
add to the consistency of evaluation. Additionally, it may be helpful to more explicitly define the skills, knowledge, and behaviors that are necessary for instructors to teach and for students to learn and practice. The purpose of this study, therefore, was to qualitatively explore CIs’ perceptions of behaviors that comprise entry-level clinical performance, as well as how those perceptions were integrated into their decision making.

**Method**

**Design**

A grounded theory approach was used to explore the cognitive decision-making processes that CIs used to interpret students’ performance in the clinical setting. Grounded theory is a general method of analysis, linked with data collection, that uses a systematically applied set of processes to generate an inductive theory about the area investigated. Investigators generate a list of concepts from the information obtained from participants and then determine the relationships among these concepts to explain and interpret variation in the behaviors of the participants.

An initial literature review was conducted in order to determine the extent of the research available on the topic. The literature review was not extensive, because the purpose of the grounded theory method is to create, not test, a theory. An in-depth literature review can influence the researcher with unwanted opinions and assumptions about the subject being studied and can impede the emergence process; therefore, it is avoided. Once the theory has been sufficiently developed, a more detailed literature review is conducted to relate the current literature with the proposed theory.

There is the inherent possibility of researcher bias using the grounded theory method, because the researcher generates concepts based on the data gathered. Preconceived notions about the subject matter can alter the formation of the categories and the eventual theory, thereby compromising the outcome. We, therefore, used bracketing to reduce unwanted opinions and assumptions that might impede the emergence process. Bracketing requires investigators to identify and confront any preconceptions about the subject they are investigating. By identifying the biases prior to the interview and data analysis process, and remaining conscious of them throughout the process, we attempted to reduce the possibility of their influencing the interviews or analysis processes.

**Participants**

We used a sample of convenience, purposively selecting participants who had served in a role as a CI. Participants signed informed consent forms approved by the Simmons College Institutional Review Board. All 21 participants were CIs from health care facilities that had contracts with the same educational institution. The number of participants was determined during the interview and analysis process, and recruitment ended when it was apparent that new information was not emerging from the interviews. The participants worked in settings located in Massachusetts, Rhode Island, and California. The practice settings included outpatient orthopedic settings (n=12), acute care settings (n=8), and a pediatric inpatient and outpatient rehabilitation setting. Sixteen of the participants were female, and 5 were male. Their years of experience in physical therapist practice ranged from 1.5 to 25 years. Sixty-two percent of the participants had a Bachelor of Science degree in physical therapy, 19% held a Master of Science degree, and 19% held a Doctor of Physical Therapy degree. Six of the participants were credentialed through the American Physical Therapy Association's Clinical Education and Credentialing Program. The length of time that the participants had been CIs ranged from 3 months to 21 years.

**Procedure**

All participants were interviewed in informal settings using an unstructured format. Participants were allowed to control the flow of information to reduce the possibility of the investigator leading the discussion. We began the interview by asking general demographic questions. We then asked the question, “What is it about a student’s performance that makes you see him or her as an entry-level physical therapist?” Follow-up and clarifying questions were asked during the discussion to explore topics mentioned by the participants in more detail and depth and to delve into topics mentioned by previous participants.

Each interview was audiotaped and transcribed by a professional transcriptionist. The transcriptions were then made available to all of the members of the group for review. We used a constant comparative method, which entails continuously comparing newer data with data that have already been collected. Therefore, the transcripts were reviewed as the participants were interviewed, and the interview strategy was modified to ensure exploration of important issues brought up by previous participants.

**Data Analysis**

Each researcher read the transcripts and began the coding process separately. Coding involves labeling ideas expressed in the transcripts. Next, the researchers met as a group to develop a list of the all of the codes each had generated. We used the codes to then identify broad themes.
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Through discussion and group consensus, we refined and defined the themes and determined their relationship to each other and the overall question being investigated. Quotes that best exemplified each theme were identified from the transcripts. Using this process, we created a theoretical framework to describe how CIs determined that their students had reached a level of performance sufficient for entry-level practice. Finally, the participants were contacted via e-mail, mail, or telephone and presented with the framework that we developed. They were invited to confirm or refute the accuracy of our themes as representations of their statements, and they answered any additional questions that we had for them.

Results

Nine broad themes were identified, and a general description of entry-level performance was determined from the interviews.

Knowledge

In order for students to be considered as demonstrating entry-level performance, our participants expected them to display basic knowledge, clinical knowledge, and knowledge of research. The basic knowledge that they described encompassed information from foundational science courses or, as CI-5 stated, “knowledge of the anatomy, knowledge and understanding of pathology, knowledge and understanding of the healing process.” Entry-level performance required accessing this knowledge without prompting. Clinical science knowledge included knowledge of medical diagnoses, pharmacology, contraindications to treatment, and team members’ roles in patient care: “drug interactions. . .comorbidities, and how those may affect their outcomes” (CI-6) or “being able to know what’s indicated and contraindicated, and medications” (CI-16).

Participants also saw students at the entry level using evidence or research-based knowledge and knowing where to find it. Entry-level students demonstrated this knowledge in responses to CIs’ queries and in their development of plans of care for patients. As CI-19 commented, “I would expect them to go looking for some other options . . .what’s current in evidence?”

Clinical Skill

Participants identified entry-level practice by observing students demonstrating clinical skill through hands-on techniques, written documentation, and time management. They noted that entry-level students demonstrated technically correct placement of the patient, their hands on the patient, and equipment. Additionally, entry-level students’ examinations and interventions were applied using appropriate speed, rate, and timing. For example, CI-18 looked for affirmative answers to questions such as,

Are they able to complete an examination or treatment independently, and are they getting all the necessary pieces? Are they covering all the bases, pulmonary assessment, range of motion, strength, tone assessment? Are they including mental status assessments? And if they’re not doing all these things without prompting, then I guess I really couldn’t consider them an independent entry-level clinician.

Documentation skills include daily notes, plans of care, evaluations, and discharge recommendations. Participants identified entry-level performance through students’ ability to provide clear, concise documentation using appropriate medical language and terminology. After being instructed in the documentation protocol for a particular setting, participants saw students at the entry level requiring no assistance. The expected level of skill in documentation was exemplified in a statement by CI-16: “If I’m going to read your note, it’s going to tell me every single thing that you did for them [patient], because if anybody were to go back and look at it a year later, you should be able to back up your stuff.”

Participants noted that time-management was an essential component of clinical skills that they associated with entry-level performance. In an acute care setting, patients see a multitude of providers for a variety of services; therefore, in order to be considered entry-level practitioners, students were expected to see all of their patients and to negotiate and schedule around the other services. In an outpatient setting, time management was seen as focusing on designing, scheduling, and then executing a treatment session within the allotted time frame. CI-7 described entry-level time management skills this way:

To be an entry-level therapist, you need to be able to have good time management skills, see a multiple of patients, [and function so] that your company is happy with your production. . .not spending too long with any one patient or making some patients feel like that they don’t have the attention that they deserve.

Safety

All participants said that students at the entry level demonstrated safety in all decisions that they made and in all hands-on techniques and tasks. As CI-16 stated, “If they’re lacking the safety aspect, then they definitely wouldn’t be entry level.” Safe decisions demonstrating entry-level performance included choosing the right exercises and recognizing a patient’s response to treatment. Safe decisions also included progressing treatment appropriately, choosing safe examination techniques, and deciding when the patient was ready
for discharge. Safety also was demonstrated by entry-level students’ techniques in examination, transfers, manual therapy and modalities, navigation through lines and tubes in an acute care setting, and use of appropriate body mechanics to avoid injury to patient and therapist. As described by CI-4, “A student should be able to use appropriate body mechanics [and] safely transfer people.” Entry-level students were expected to not require prompting to be safe in all activities. As CI-1 stated, “Body mechanics and safety [are] key here.”

Clinical Decision Making
According to our participants, when making a decision about entry-level performance, they need to see that a student was able to synthesize information, choose appropriate examination and intervention techniques, and provide a reasonable rationale for that treatment. As CI-3 stated, “They need to be able to back up what they’re saying with hard data from their evaluation and with a clear, concise assessment.” Participants also looked for evidence that students looked at the big picture, yet were able to break down problems into component parts to manage patients’ care. As an example, CI-2 noted that “working with the acute patients and making quick discharge disposition recommendations” was critical in their setting.

The CIs also noted that entry-level performance was demonstrated by continuous evaluation of the patient, reacting to changes quickly, modifying management appropriately, and showing adaptability and flexibility in thinking: “always re-evaluating the patient every time they see them” (CI-10). Entry-level performance also was demonstrated by ability to recognize when a patient has a problem outside of one’s scope of practice and referral to the appropriate health care professional. As CI-5 noted, “If they don’t have the skill level to treat the patient, they should refer appropriately” to a more experienced or specialist physical therapist.

Self-directed Learning
Participants stated that they looked for self-directed learning skills as evidence of entry-level performance. Participants identified entry-level performance in this area as comprising the ability and desire to seek out new information, ask appropriate questions, and take the responsibility for directing one’s own search for knowledge and professional growth using self-assessment. Self-assessment at entry-level was seen to include articulating one’s strengths and weaknesses in both knowledge and skill and developing a plan to address the weaknesses. Students at the entry level were seen to be able to recognize when they were in situations where they did not have the requisite knowledge or skills and were willing to seek assistance. As CI-13 said, “being able to know what you know and know what you don’t know” is a key to self-directed learning for entry-level students.

According to our participants, entry-level performance is characterized by students’ asking questions at a level of complexity that demonstrates that they have thought through an issue, understand the topic, and are looking for confirmation rather than answers.

I would expect [them] to have doctoral-level questions. I would expect their questions to be challenging to [me] so that I could see that they’ve thought things out. I expect them to be also not...relying on me for all the answers. [They should be saying,] “This is what I got. This is how I came [up with the idea]. What do you think?” (CI-22)

When confronted with a novel problem, students performing at the entry level look up information on their own without prompting in order to more effectively treat their patients and to share new knowledge with their colleagues.

If you’re reading a chart and you come across a disease process that you don’t know, . . . you’re going to look that up, and you’re going to learn about it, and maybe you’re going to turn around and teach the rest of the staff about it the next day because you found something interesting in the chart. (CI-3)

Finally, our participants looked for eagerness to continue learning in determining that students were at the entry level: “. . . willing to learn on the job, willing to be open to different suggestions. . . pretty much be a sponge” (CI-22).

Interpersonal Communication
Participants stated that an important factor in their identifying entry-level performance was students’ ability to establish relationships with their patients, family members, and associates of their patients through excellent interpersonal communication skills. Interpersonal communication is a process by which information and ideas are reciprocally exchanged between individuals through a common system. During this process, individuals convey messages verbally, vocally, nonverbally, intentionally, and unintentionally, within a relationship. As noted by CI-19, a student performing at the entry level must be “able to really focus the patient.” Ability to form relationships with professional colleagues also was seen as an important quality in decisions about entry-level performance: “[They must] get along with other health care workers, the nursing staff, the medical staff. . . communication is key because you have to talk to everybody involved with the patient, not just me” (CI-16).

Participants looked for students to show self-confidence while working
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with patients and other staff members as evidence of entry-level performance. CI-5 said, “The student may be very caring and may have the knowledge, but if they’re not confident in how they’re trying to relay that, if the patient picks up on that, that may create a little bit of a barrier for trust.” Several CIs noted that entry-level performance required students to show confidence even if they did not feel it. CI-4 stated, “Patients are not going to listen to your recommendations, and I think that in order to be successful, you have to at least be able to fake confidence even if you don’t feel it internally.” Participants’ comments did not imply that students should “fake confidence” if they did not truly know what to do or how to answer patients, only that they had to demonstrate confidence that they may not have felt through their voice, words, and body language.

In addition to showing confidence, entry-level students must be able to speak to patients and staff in a way that shows they are in control of the situation: “When you are speaking to someone, instead of speaking [in] questions, speaking [in] statements” (CI-4). Ability to educate patients and staff through effective communication also was considered a mark of entry-level performance. CI-16 described entry-level performance as “being able to explain things to them (patients) in a way that they’re going to understand.”

Participants noted that entry-level performance was demonstrated by students’ respect for patients and ability to engender respect from patients and other staff members. As CI-5 said, “If they can’t engender the trust of the patient, they may never get that second chance to do the things that they think are effective.” Finally, several CIs described to us the opposite of good interpersonal communication as examples of behaviors that were not consistent with their view of entry-level performance: “He wouldn’t make eye contact with the patient” (CI-13); “[She] didn’t really talk to the patients” (CI-14); “. . . barking orders to the patient” (CI-15); “Very standoffish” (CI-21). These CIs noted that they were not sure that people with these types of behaviors should be physical therapists at all.

Professional Demeanor

According to our participants, professional demeanor is a key attribute they look at when determining entry-level performance. It is exemplified by the way in which an individual speaks, acts, and dresses: “. . . basic skills like being on time to work and being dressed appropriately” (CI-4). For our participants, professional demeanor at entry-level performance is characterized by “going above and beyond just treating their patients” (CI-19). Entry-level performance requires students to act in ways that confirm their commitment to the profession. In determining entry-level performance, participants looked for students to be “dedicated to both the profession and to the patient” (CI-5) and “willing and able to work hard” (CI-8).

Professional demeanor at entry-level also was represented by students’ taking initiative during interactions with patients and staff members. As CI-2 stated, “I look for them to independently take the initiative to communicate issues with the patient [and] with the right members of the team.” Entry-level performance also is characterized by students’ “ability to laugh and enjoy themselves professionally” (CI-15) within appropriate boundaries. Participants identified entry-level performance as when students demonstrated maturity and responsibility toward their work that allowed them to accept feedback from others “without becoming defensive every time [they] get a correction” (CI-12).

Gut Feeling

Participants referred to a “gut feeling” that indicated to them that a student had achieved entry-level performance. They derived this intuition or impression that a student was at the entry level by considering how they believed a student would perform in a hypothetical situation. They looked for affirmative answers to questions such as: “Would I let them treat a relative? Would [I] hire them as a staff member?” (CI-14) and “Would I feel comfortable with this person treating one of my patients without me?” (CI-16). Participants’ confidence in a student appeared to be an important factor in forming their gut feeling. As CI-17 noted, “I have enough confidence in you (student) for you to discuss what you’re going to do with the patient and for me to say, ‘Go ahead and do it.’ That’s what I’m looking for when I think you’re ready for entry level” (CI-17). The student’s performance as a whole is considered rather than individual strengths and weaknesses separately, and often a concise explanation of why the CI has arrived at the decision is multifactorial. As one CI noted, “I know that they’ve achieved it just through watching. Basically, it is my gut feeling if they’ve achieved that skill” (CI-14).

Mentored Independence

Each of the themes described above suggests the qualities that CIs look for in determining whether students under their supervision have demonstrated entry-level performance. The CIs interviewed seemed to draw these characteristics together into a holistic view of entry level. We used their descriptions to define entry-level performance as “mentored independence.” The concept suggests a balance between independence or self-reliance and need for assistance. As one CI described an entry-level
practitioner, “... sort of like the adolescence of physical therapy” (CI-12).

Mentored independence suggests that entry-level practitioners are not expected to know everything or perform all skills without assistance. As CI-5 noted, “We can’t learn everything in 3 years, and that’s why there’s a difference between entry-level therapists and someone with 10 years of experience.” CI-4 said, “I would say that they need to be able to independently go through their day and only need me... 10% of the time for me to really consider them entry-level.” Similarly, CI-20 stated, “By the time they leave, we should be able to leave them alone for 75% to 100% of the patients.”

For patients with diagnoses and conditions that were not complex and with which students were familiar, participants noted that they would look for the entry-level practitioner to be able to manage safely and effectively without assistance. In managing complex cases or patients with diagnoses that were unfamiliar, participants characterized entry-level performance as being safe with the patient and seeking assistance, asking questions, or confirming treatment strategies to manage the patient effectively.

There are always going to be situations that you’re unfamiliar with and that you may need guidance with... if it was uncomplicated in terms of something that they had dealt with before, I would expect them to be competent and perform that without any assistance. If it’s complicated in terms of a diagnosis that we hadn’t dealt with before or something that they required an extra hand [with], I don’t think I would expect the student to be able to perform that sort of evaluation or treatment without any assistance. (CI-18)

Participants noted that they expected an entry-level practitioner to have a more experienced therapist available with whom to discuss ideas and from whom to learn new techniques and skills.

I think that new trainees, people going into a job for the first time, definitely need to have a mentor kind of person who leads them through; somebody who was looking out for them and willing to sit down and look at a chart once a week and sort of correct things and just to monitor them so they don’t feel so afloat. (CI-12)

Our participants suggested that the level of independence expected of the entry-level practitioner may be setting-specific. “You would need more guidance in the pediatric setting versus acute” (CI-21). In settings with patients who are acutely ill, participants thought it was acceptable for entry-level practitioners to have a greater level of supervision than in outpatient settings. As CI-5 stated, “If you’re going to be working in an inpatient setting, I think at entry level, there is a degree of supervision that is expected.”

Discussion

A Model for Decision Making

The purpose of this study was to explore CIs’ perceptions of students’ behaviors and their decision-making process in determining that students have reached entry-level performance expectations. Incorporating the 9 themes from our results, a theoretical model was designed to explain the decision-making process that CIs use in this determination (Figure). It appears that participants first determined whether students demonstrated adequate performance by observing the behaviors frequently included in standardized
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Performance measures such as the CPI and the Blue MACS. They then used a gut feeling to integrate their observations in deciding whether students were capable of entry-level practice, defined by them as mentored independence.

Based on the fact that the majority of participants, when asked the initial question during our interview, talked about specific types of knowledge (eg, anatomy and pathology), specific skills (eg, pulmonary assessment, documentation thoroughness, and time management), and safety, we placed these attributes near the center of our model. Several participants used the term “obviously” when stating that appropriate knowledge, skill, and safety were what they looked for in determining entry-level performance. Our model, however, places clinical decision making at the center because our participants saw this ability as requiring knowledge, skill, and understanding of safety issues. Clinical decision making means, according to our participants, selecting the right tests and asking patients the right questions to make a diagnosis, then using the information to select the appropriate interventions. Statements from our participants suggested that skill in doing the tests and interviewing patients and knowledge of safety issues are requisite to good decision making.

In our model, interpersonal communication and professional demeanor supersede knowledge, clinical skills, and clinical decision making. Participants noted that students needed to be polite, confident, respectful, and able to get along with all sorts of people in order for them to be able to effectively demonstrate their knowledge and skills to patients, CIs, and other team members with whom they might interact. Responses from the participants suggested that, despite having adequate knowledge, skill, and safety, students could not successfully meet entry-level requirements without appropriate communication and interpersonal skills.

In the top part of our model, the outer shell, is self-directed learning. The components of clinical performance described by the 6 themes in the center of this shell seemed to be considered by participants in the context of self-directed learning. Participants appeared to base their decisions about entry-level practice on evidence that students not only performed adequately in these 6 areas, but also accurately evaluated their own performance in each area and asked for help or sought more information when they did not have the requisite level of knowledge, skill, decision-making capability, or interpersonal skills to solve a problem. They also suggested that entry-level students were not expected to have all of the answers and were expected to keep learning. They, therefore, formulated their decisions, in part, on their analysis of students’ potential and desire to improve professional demeanor, learn new clinical techniques, gain new knowledge, or acquire additional skills in communication when no longer students.

The top of the model represents the characteristics or behaviors that students display and CIs note when determining entry-level performance; however, the assessment of the adequacy of these behaviors is filtered through a subjective lens that integrates the perceived behaviors into a discernment of performance that is hypothetical and generalizable to most or all patients.

As suggested by our participants, the final step in the process of determining entry-level performance occurs when they take the information gained through observation and personal and professional interaction with a student to develop a gut feeling about the student’s performance. Using this overall, subjective synthesis of all information, participants concluded either that a student did not demonstrate entry-level ability or that a student had reached the required level of mentored independence.

Attributes of Entry-Level Physical Therapists

Common perceptions of entry-level health care professionals’ characteristics were found across the medical, nursing, veterinary, occupational therapy, and physical therapy literature and closely matched the themes identified by this study. For example, Cross identified the necessity of theoretical knowledge for physical therapist practice. In medicine, knowledge of basic sciences, disease processes, and epidemiology is reported as essential to practice. In the nursing literature, knowledge has been reported as comprising the ability to find and use resources, apply lateral thinking, and practice using evidence. In veterinary medicine, knowledge of biology has been reported as essential.

Good clinical skills are considered necessary for adequate performance across the health care professions. Clinical skills have been defined as history taking, physical examination, patient interviewing, treatment implementation, surgical skills, and handling of patients. Similar to our findings, skill in documentation and management of resources (eg, time) have been reported as critical skills by some professions. Practicing in a safe manner has been described as essential as well, including awareness of safety factors and understanding one’s limitations.
Skill in clinical decision making also has been identified as essential to practice in the health care professions literature.2,10,11,15,16,19,22 Similar to the portrayal by our participants, the literature describes the characteristics of clinical decision making as problem solving,3 making a diagnosis,10,16 applying knowledge,11,15 determining a plan of care,2,16,19 and using judgment.22

Literature in the health care professions has identified the importance of interpersonal communication to entry-level practice,12,14,16–19,23 including the ability to work with other health care professionals in a team5,11,15,16 and the ability to gain patients’ confidence11 and respect.16 Girot14 reported that nurses expected fellow practitioners to spend time with patients and to communicate in ways that demonstrated their appreciation of patients’ physical needs and psychosocial well being.

The physical therapy literature also has described the importance of the patient-therapist relationship to entry-level practice, including rapport, and empathy.5,19,23 Professional demeanor as a requirement of practice has been described in the literature of various health care professions.11,12,15,18,19,22,23 Although using terms somewhat different from those used by our participants, one study described an entry-level physical therapist’s professional demeanor as a “smart appearance,”5(p305) and being able to “project self.”5(p305) Self-directed learning and life-long learning have been reported as important characteristics for entry-level practitioners across the health care professions.10,11,14,16,17,21 For example, similar to our findings, the participants in a study by Cross5 described a self-directed physical therapist as one who asks questions and demonstrates a desire to learn more.

**Gut Feeling**

Although there seems to be some agreement among health care professionals that certain attributes must be adequately demonstrated to qualify an individual for entry-level practice, adequacy is an ill-defined construct. Whereas the other themes represent the characteristics that CIs look for and identify as essential to students’ qualifying for entry-level practice, gut feeling seems to represent their cognitive integration of those characteristics into a decision about the overall adequacy of performance. Difficulty with the definition and quantification of performance adequate for entry-level practice may explain participants’ use of their gut feeling, or intuition, to determine when students have demonstrated entry-level performance. Because it may be easier to assess the adequacy of concrete skills or behaviors such as documentation or application of an intervention than the adequacy of attitudes and other abstract characteristics such as desire to learn or confidence, evaluation likely involves consideration of a student’s functioning as a whole. For example, Cross and Hicks21 found that CIs more commonly used implicit criteria, such as asking themselves, “Would I employ this student?” than clinically based objective measures of performance.

Alexander1 studied judgment theories to explain evaluation of students by CIs: the availability heuristic and the representative heuristic. Using the availability heuristic, a CI uses impressions of previous students who were considered “good” or “poor” while evaluating a current student. Evaluation of the current student is determined by whether he or she compares favorably or unfavorably with previous students. There is potential for error in this assessment because the CI’s impressions may not be accurately representative of past students. Additionally, some CIs may educate very few students; thus, their impressions are based on a small, possibly biased, sample. Using the representative heuristic, a CI determines the degree to which prominent features displayed by a student are representative of the desirable features characteristic of entry-level physical therapist practice. For example, a CI may believe that “good” students have outgoing personalities. In evaluating a student who has an outgoing personality, the CI is more likely to perceive the student as “good,” although clinical abilities may be lacking. The gut feeling that our participants reported using to determine entry-level performance may be subject to these heuristics.

**Definition of Entry-Level Practice**

Evaluation tools used in clinical education focus on identifying and defining attributes of the entry-level practitioner. However, given the likelihood of subjective assessment in the implementation of these tools, determination of whether a student demonstrates entry-level practice may be imperfect.11,14 Our findings provide additional detail concerning the attributes that CIs consider in evaluating the performance of students in the clinical setting.

Interestingly, with the exception of literature describing physical therapy clinical performance evaluation instruments, we were unable to find literature that defined entry-level practice. Responses from the participants in our study suggested that they characterized entry-level practice as mentored independence, that is, a balance between independence and need for assistance. The concept of mentored independence is illustrated in the definition of entry-level performance in the CPI.2 Consistent with our findings, it states that the physical therapist “needs no guidance or supervision except when addressing new or complex
problems. The CPI also states, however, that entry-level practitioners make independent decisions in patients with simple or complex conditions. The CIs we interviewed distinguished between the levels of independence expected for students when managing patients with simple and complex conditions. Additionally, our participants suggested that the level of independence expected was dependent on the setting and the skill being examined.

Although licensure allows entry-level clinicians to practice in settings without mentoring or colleagues with whom to consult, the CIs we interviewed based their decisions about whether students demonstrated entry-level performance on the premise they did not have to make independent decisions in all cases. Perhaps this is an inaccurate premise on which to base their decision making; however, it should be an indication for all physical therapists to consider how we can provide and access consultation and mentoring among ourselves.

Limitations
As is true for studies using grounded theory design, our results are not meant to be generalizable. Our sample was one of convenience; the views of 21 CIs, primarily from the New England region, were solicited and used to develop the theoretical framework. Additional limitations include a high number of participants in the orthopedic outpatient setting as compared with other settings. Furthermore, in qualitative research, there is always the potential for researcher bias to influence the results. Although we did engage in a bracketing process to limit this bias, it is possible that our views may have influenced the interpretation of the participants’ opinions, the derivation of the themes, or the design of the model explaining the interaction of the themes. However, when we asked participants to comment on the themes and definitions that we developed, they provided positive feedback, thus contributing to the reliability of our findings. Another limitation is that all CIs interviewed in this study used the CPI to evaluate students’ performance. The use of this tool likely influenced their thought processes in regard to students’ clinical performance. On the other hand, the CPI was developed with a great deal of input from CIs. It is not surprising, therefore, that the themes revealed by our analysis are largely reflected in the CPI.

Future Research
Our model needs to be validated in different groups of CIs. Other new avenues of research suggested by this study include examination of the factors that influence the decisions of CIs regarding student performance and determination of whether they weigh certain student behaviors more heavily than others in making their decisions about performance adequacy. Influencing factors may include practice setting, age, sex, experience, learning style, and personality of CIs and students. Additionally, exploration of the interaction among these variables might provide valuable information for educators and students. Future research also might include testing of further refinements of performance measurement instruments that seek to identify the specific behaviors that indicate various levels of performance from beginner to entry level.

Conclusion
This study serves to describe the behaviors and characteristics that CIs believe comprise entry-level performance by physical therapist students. Additionally, the results demonstrate a decision-making process by CIs that integrates these characteristics into a subjective perception of an entry-level clinician. The results showed that CIs tend to look for 7 attributes in students and use their observations to develop a gut feeling about performance. Finally, our participants characterized entry-level performance as mentored independence, that is, expecting students at this level of performance to ask appropriate questions and seek help in complex or unfamiliar situations. The clarification of the thought process involved in clinical evaluation of students may assist CIs in examining the validity of their evaluations of students’ performance and may help students and CIs to communicate in identifying areas of concern or areas of strength.

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