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The First Year of Practice: An Investigation of the Professional Learning and Development of Promising Novice Physical Therapists

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Background. The goal in studying expertise is not merely to describe ways in which experts excel but also to understand how experts develop in order to better facilitate the development of novices. The study of novice progression helps us to understand what successful versus unsuccessful learning looks like. This understanding is critical, as autonomous practice places increased demands for advanced clinical judgments and the ability to assume professional responsibilities.

Objectives. The purpose of this study was to explore the experiences, learning, and development of promising novice therapists throughout their first year of practice in the United States.

Design and Methods. A longitudinal, multiple-site qualitative case study method was used for within-case and across-case analysis. A purposive sample of 11 promising new graduates from 4 physical therapist education programs participated. Investigators followed the graduates throughout their first year of practice. Data sources included: (1) semistructured interviews conducted at baseline and every 3 months thereafter for 1 year, (2) reflective journals completed at regular intervals, and (3) review of academic and clinical education records and résumés.

Results. Four themes emerged: (1) the clinical environment influenced the novice physical therapists’ performance, (2) participants learned through experience and social interaction and learning was primarily directed toward self, (3) growing confidence was directly related to developing communication skills, and (4) therapists were engaged in professional identity formation and role transitions.

Conclusions. The findings suggest there are common experiences and themes that emerge as novice physical therapists develop. Although research has been conducted on expertise in physical therapy, few longitudinal investigations have explored the development of therapists across transitions from graduate to novice to expert practitioner. This study explored and described the learning and development of graduates during their first year of practice.
Strong traditions exist in professional education that suggest the outcomes of entry-level professional education result in, at least, minimal standards of competence. This new practitioner should be capable of working independently with occasional consultation from colleagues.\textsuperscript{1,2} Although physical therapist education has evolved rapidly to the clinical doctoral degree as the entry-level professional degree for physical therapists in the United States, there remains a great deal of diversity across educational programs and a wide variety of strategies for clinical preparation. Active dialogue continues about the state of clinical education, where variation is the norm, and whether time in clinical experiences, control of the environment or practice setting, or the quality and experience of clinical instructors influence early practice. Delitto, in his 2008 Mary McMillan Lecture, argued for the following:

I urge us to at least consider postprofessional, entry-level residencies as a clinical education model. I would propose that we graduate our students prior to the terminal internship, let them sit for licensure, and then place them in long-term entry-level residencies.\textsuperscript{3(p1226)}

An assumption in this recommendation is that there is a need for the continuation of structured learning experiences as new graduates transition from the role of student to physical therapist. Yet, what do we know, or not know, about the nature of workplace learning in the early years of a physical therapist’s career?

The initial years of practice are a time of both challenge and change as the novice practitioner emerges as a professional physical therapist. Currently in physical therapist education, there continues to be a move toward increasing the length of time for terminal clinical experiences in educational programs and a lack of consensus as to what constitutes the core elements of best practice in clinical education.\textsuperscript{4,5} The physical therapy profession also continues to develop an increasing number of clinical residency and fellowship programs for specialty practice. Given the discussions on these issues, it is important to know more about the nature of learning and professional development that occur in clinical practice after graduation, both pre-licensure and post-licensure. The first year of practice is a key period in the transition from student to physical therapist and to date has been under-investigated. The structure and development of clinical education or residency programs could be enhanced by better understanding of the early learning and development that occur during that first year of practice for novice therapists.

There is ongoing discussion across the health care professions that professional competence, as a component of expertise, is a multidimensional and complex concept.\textsuperscript{6} Competence extends well beyond knowledge and technical skills or achievement of minimal standards. Epstein and Hundert\textsuperscript{6} argued that professional competence is developmental, contextual and impermanent. The acquisition of competence depends on the development of habits of mind such as self-awareness, flexibility, and critical self-reflection that allow the practitioner to handle uncertainty. We use “competence” not as a minimal standard but as a component of expertise. The process of the development of expertise is poorly understood, but an important element is thought to be the continued learning and self-reflection that are essential in mediating movement from mere accumulation of years of experience to the acquisition of expertise.\textsuperscript{7,8}

The professional learning that occurs during the early years of clinical practice often is viewed as an essential part of the growth and development of practitioners, both as a process of change within an individual and as the enculturation of the practitioner into a group. Even so, limited attention has been given to systematically exploring the early learning and practice experiences of physical therapists or to interactions and relationships in the workplace. These early experiences create the contextual surround for practice and provide the novice practitioner with opportunities to gain experience and develop professional competence.

The work of Jensen and colleagues\textsuperscript{9,10} and Solomon and Miller,\textsuperscript{11} among others,\textsuperscript{12–18} has significantly contributed to our understanding of expertise in physical therapist clinical practice and of differences between novice and expert practitioners.\textsuperscript{9,10,19,20} These authors have urged a view of expertise as a “continuous process, not a state of being”\textsuperscript{10(p20)} and posited that professional formation is a developmental phenomenon that incorporates change within an individual in several domains, as well as social and professional enculturation. They also emphasized that the accumulation of experience does not equal the development of expertise.

Exploration of physical therapist students’ professional socialization has been a focus of several qualitative investigations.\textsuperscript{21–24} Most agreed there is a need for educators to facilitate the professional identity development of students. The studies also showed that students struggle with building self-confidence and frequently experience cognitive dissonance between “ideal”
practice and actual clinical practice. The research suggests that educators take a more explicit role in guiding the professional formation of students. Although we have some insight into student professional formation, there are fewer studies of professional formation of novice physical therapists in the first year of practice. Solomon and Miller used a grounded theory approach to gain insight into novice physical therapists during their first year of practice. They found through semistructured telephone interviews with 10 novice therapists that they struggled in communicating with challenging patients, experienced difficulty with reimbursement issues, and reported feelings of stress and insecurity. Clinical environments where there were role models and mentors facilitated an easier transition to the therapist’s role. The study concluded that the first year of practice significantly influences professional socialization of novice therapists.

Few studies have investigated longitudinally and qualitatively the learning and development of physical therapists during their early and formative years of practice. Tryssenaar and Perkins conducted one of the few longitudinal studies that examined the development of novice physical therapists and occupational therapists during their first year of practice. Using a phenomenological approach to inquiry and reflective journals as data sources, Tryssenaar and Perkins followed the transition of 6 occupational therapist and physical therapist students from their last fieldwork experience through their first year in practice. They found the idealism of the new graduate was quickly tempered by the reality of the workplace, where the complexity of the system often challenged their ideals. They described a series of stages experienced by new therapists that included transition, euphoria and angst, recognizing and reconciling the realities of practice, and adaptation. As the new graduates moved through their first year of practice, they increased in self-confidence, also developing a more patient-centered approach with experience.

In nursing, much of the work on novice learning and development has grown out of the landmark work of Benner and colleagues, who proposed a 5-stage model of development for nurses, moving from novice to expert. In a longitudinal study, Schoessler and Waldo proposed a process model of nurse development that incorporated several theoretical frameworks, including those of Benner, Kolb, and Bridges.

A great deal of qualitative research and theory work has been done on novice development in teacher education. Early work by Bullough and colleagues uncovered the critical role of mentoring, ongoing feedback, and evaluation, as well as support and encouragement, for teachers in the first and early years of practice. In a longitudinal study, Levin followed 4 teachers over 15 years. She discovered that these teachers did not experience a washout effect, that is, lose what they had learned in their teacher preparation program, if they engaged in reflective learning.

In the teacher education and professional development literature, numerous reviews of research on teacher learning also support a situative perspective and social constructivist views of learning in the early and ongoing learning of teachers. These views call attention to the active construction of meaning and practice knowledge by individual teachers through participation and social engagement in the community of practice in which they are working.

In professional education, we are concerned about the development of professional competence and expertise in novices. In physical therapy, the profession’s vision for increased autonomy brings with it increased responsibility and, therefore, greater accountability. In both academic and clinical settings, there will continue to be increasing emphasis on demonstrating accountability for competent performance. For educational programs, we must demonstrate that our graduates are competent and ready to begin practice. Inherent in these concerns is the implication that professionals must remain professionally competent over time. Therefore, when discussing expertise, it is critical to consider the stages of progression toward development of expertise that include novice development.
and demonstration and maintenance of professional competence.\textsuperscript{27,28,47} The health care system in the United States is placing increasing emphasis on accountability for competent performance, and, in turn, our discussions in professional education and practice also must consider the inter-relationships of competence, novice development, and expertise.\textsuperscript{6,48}

Novice development is a process of change within the individual (knowledge, skills, and thinking), as well as a contextually grounded enculturation and professional socialization process. The community of practice in which novice therapists work undoubtedly plays a critical role as they learn from and through experience. Sources of learning are diverse and numerous and include, but are not limited to, research-based evidence and theory; practical and personal experience; dialogue with patients, caregivers, and other health care professionals; and reflection on their own work.\textsuperscript{45–49} Although a moderate amount of research has been conducted on expertise in physical therapy and on differences between novices and experts,\textsuperscript{50} few studies have investigated the learning and development of novice physical therapists over time throughout the first year of practice.

In the United States, we have yet to systematically explore the learning and development of physical therapists during the early years of practice. What are the sources and nature of learning for new professionals during their early years of practice? What forces or factors influence the nature and trajectory of professional development during this time? What facilitates or constrains learning and development? What experiences shape the formation of professional identity for novice clinicians? How do novices change over time? Why do some therapists grow toward expertise and not others? Such questions urge a longitudinal and qualitative approach to inquiry.

This study begins to address some of these questions from a longitudinal and qualitative perspective to enhance our understanding of learning and development during the early years of practice as a physical therapist. The purpose of the study was to explore and describe the experiences, thinking, learning, and development of promising novice therapists during their first year in practice.

**Method**

**Design**

We used a multiple qualitative case study approach, using grounded theory methods that allowed for within-case and across-case analysis. Seven experienced qualitative researchers representing 4 physical therapist education programs in the East and Midwest regions of the United States collaborated as investigators for the study. The use of multiple investigators and multiple programs helped to ensure a larger initial sampling frame for the study.

**Participants**

For each university cohort, the investigators sought a purposive sample of a minimum of 2 and a maximum of 4 participants who met selection criteria. A purposive sample of 12 new graduates from the 4 physical therapist professional education programs initially agreed to participate in the study. One individual discontinued enrollment early in the study period, leaving a final sample of 11 participants (Table). To bound the study and sampling frame, we decided to recruit new graduates who were viewed as “promising novices,” with the assumption that those individuals may be more likely to begin to develop the characteristics and attributes of expert therapists earlier in their careers than others. Participant selection criteria for the study included the following: completed a physical therapist degree, graduated with a GPA of 3.0 or higher, excelled in the final year of clinical education experiences (as determined through nomination by the clinical education faculty), engaged in extracurricular and professional activities during their educational preparation, and demonstrated characteristic behaviors associated with professionalism, as described in the APTA professionalism/core values document.\textsuperscript{50}

Participant demographic data are provided in the Table. The novice therapists ranged in age from 24 to 29 years and entered practice in a variety of practice settings. The sample consisted of 8 female therapists and 3 male therapists whose work settings ranged from acute care hospitals, to hospital-based outpatient clinics, to private practice, to rehabilitation settings, both inpatient and outpatient. In addition, the patient populations these new graduates were working with were diverse and crossed the life span from pediatrics to geriatrics. Most graduates held a Doctor of Physical Therapy (DPT) degree either at graduation or granted through a transitional degree program. The study began at the time many programs were converting from Master of Science in Physical Therapy (MSPT) degrees to DPT degrees. Several participants graduated with MSPT degrees and then completed transition programs designed to enable graduates to advance their professional degree to the DPT level shortly after the awarding of the MSPT degree.

**Procedures/Data Collection**

Figure 1 provides a summary of the chronology of data collection and multiple sources of data gathered across the course of the first year of the study. Data sources included an initial brief demographic questionnaire, reflective journals submitted at least monthly, and a baseline semi-structured interview conducted at
entry into the study, followed by quarterly interviews thereafter for a total of 5 interviews. The researchers collaboratively designed the reflective journal guidelines and questions and the interview guide based on existing literature and key concepts related to professional learning, development, and clinical reasoning in physical therapy. Reflective journal guidelines and questions provided to participants at the initiation of the study are shown in Appendix 1. Questions for the baseline interview and selected questions from subsequent interviews are provided in Appendix 2. Consistent with the nature of this type of qualitative case investigation, the types of interview questions asked by the investigators diverged to some degree to allow for follow-up on data provided by individual participants in reflective journals or prior interviews. Participants were asked to discuss their first-year performance review during the last (12-month) interview session. The

<table>
<thead>
<tr>
<th>University Affiliation</th>
<th>Participant No.</th>
<th>Sex</th>
<th>Age at Entry (y)</th>
<th>Degrees</th>
<th>Practice Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>University 1</td>
<td>1</td>
<td>F</td>
<td>24</td>
<td>MSPT</td>
<td>Hospital: acute care pediatrics</td>
</tr>
<tr>
<td>University 1</td>
<td>2</td>
<td>F</td>
<td>24</td>
<td>MSPT</td>
<td>Hospital: long-term care, acute care and rehabilitation</td>
</tr>
<tr>
<td>University 2</td>
<td>3</td>
<td>M</td>
<td>27</td>
<td>DPT</td>
<td>Private practice: outpatient</td>
</tr>
<tr>
<td>University 2</td>
<td>4</td>
<td>F</td>
<td>27</td>
<td>DPT</td>
<td>Hospital: aquatics</td>
</tr>
<tr>
<td>University 2</td>
<td>5</td>
<td>M</td>
<td>26</td>
<td>DPT</td>
<td>Hospital: outpatient</td>
</tr>
<tr>
<td>University 2</td>
<td>6</td>
<td>F</td>
<td>25</td>
<td>DPT</td>
<td>Hospital: acute care and cardiac rehabilitation</td>
</tr>
<tr>
<td>University 3</td>
<td>7</td>
<td>M</td>
<td>29</td>
<td>MSPT</td>
<td>Private practice: outpatient</td>
</tr>
<tr>
<td>University 3</td>
<td>8</td>
<td>F</td>
<td>28</td>
<td>MSPT</td>
<td>Private practice: pediatrics</td>
</tr>
<tr>
<td>University 3</td>
<td>9</td>
<td>F</td>
<td>26</td>
<td>MSPT</td>
<td>Private practice: outpatient</td>
</tr>
<tr>
<td>University 3</td>
<td>10</td>
<td>F</td>
<td>25</td>
<td>MSPT</td>
<td>Pediatric rehabilitation center</td>
</tr>
<tr>
<td>University 4</td>
<td>11</td>
<td>F</td>
<td>24</td>
<td>DPT</td>
<td>Veteran’s hospital: inpatient and outpatient</td>
</tr>
</tbody>
</table>

* M=male, F=female, MSPT=Master of Science in Physical Therapy, DPT=Doctor of Physical Therapy.

Figure 1.
Chronology of data collection and multiple sources of data gathered across the first year of the study.
majority of interviews were conducted face-to-face, but some were conducted by telephone due to travel or scheduling constraints. All interviews were audiotaped and transcribed verbatim.

Data Reduction and Analysis
Data were analyzed using a general inductive approach, as described by Thomas, using constant comparison for within-case and cross-case analysis. This approach incorporates common strategies for analysis used in several qualitative analysis traditions, including grounded theory, phenomenology, narrative analysis, and discourse analysis. Following each interview, the investigators reviewed transcripts and journals and used open coding to analyze the interview and monthly reflective journal data for each graduate therapist. These data were used to create a descriptive and emerging case report. Investigators from each institution then collaborated to review cases to verify codes, categories, and subcategories and to identify emerging themes. Midway through the first year, investigators from all 4 universities shared their coding scheme and emergent categories and themes. Discussion and deliberation by the investigators at this time led to a preliminary identification of 5 core themes into which most categories, subcategories, and codes could fit: learning, confidence, communication, professional identity formation, and the clinical environment. These consensus-based core themes were used as the framework for further analysis of individual participant and institutional case studies. Although these preliminary themes and related categories had been identified, as data collection continued, the investigators were alert to the potential for discrepant or divergent data to create new interpretations or for collapsing or overlapping categories and themes. At the conclusion of the first year, additional data from the institutional case studies was used to refine and further develop a preliminary conceptual model representing the learning and development of these novice physical therapists during the first year of practice, as illustrated in Figure 2.

Throughout data collection and analysis, several strategies were used to ensure rigor and enhance trustworthiness. First, triangulation was used to ensure consistency; that is, data were sought from multiple sources.

Figure 2.
Preliminary conceptual model representing the learning and development of the novice physical therapists during the first year of practice.
Clinical Environment and Practice Community: Workplace Supports and Constraints

These novice therapists in their first year of practice were strongly influenced, either positively or negatively, by the clinical environment and the practice community. An early focus on “learning the ropes” of the clinical setting prevailed over an emphasis on developing their clinical decision-making skills. The participants reported their first priorities as “getting in the flow” or experiencing the “real world” of the workplace. Those participants who entered an environment where there was a mentoring program for new therapists found this very helpful and described the program as a workplace support for their development.

Mentoring took place both formally and informally for most, but not all, of our participants. That is, some new therapists had mentors specifically identified for them as they began work, whereas others sought out members of the staff who eventually served as mentors.

It’s been an ever-changing environment in our clinic and not having a whole lot of resources to fall back on or be able to ask certain people questions that may have had experience in that particular area. It’s been kind of tough figuring out stuff on my own and kind of going from there. . . . At that point in time, you do kind of wish you had a mentor to fall back on.

The participants often recognized primary concerns about becoming an integrated member of the clinic team and developing their individual clinical skills. However, the need for developing time management skills and becoming efficient and productive members of the clinical community often ruled their world early in the first year. Toward the end of the year, however, they more easily navigated workplace constraints or limitations and were less “rule governed” by the environment. Dissatisfaction with some practices in the clinical environment created cognitive dissonance and ethical distress and led to job changes for 2 therapists at end of first year. These were the same therapists who reported a lack of mentoring.

We get told how we should practice; administration wants us to average a certain number of visits but obtain certain outcomes. I find this difficult to follow because not every patient is the same. I try not to follow these rules when treating my patients.

There was significant variability in participant responses to the clinical environment. As forecasted by an earlier quote, instability in the clinical environment negatively affected the participants’ performance.

It’s kind of like you don’t want to get yourself used to anything just yet because the overwhelming thought is that I would kind of be here for the upcoming future and then there were some other changes in the company.
Professional Learning and Development of Novice Physical Therapists

Learning Through Experience
An emphasis on learning through experience was present for all participants and was a core category:

As a physical therapist I am always learning . . . and I feel that I am continuing to strive to learn new things. Participant 10—Journal

This category includes participants’ perceptions regarding expanding practical skills, knowledge, abilities, and clinical reasoning skills. Early on, the participants questioned their clinical skills and judgment; they were concerned about their performance as physical therapists. To advance their skills and clinical judgment, they identified multiple sources of learning in the clinic and used a variety of learning strategies. Participants reported learning through everyday experience (including trial and error), observation, asking questions and engaging in dialogue with colleagues, and seeking and reading literature. Their focus often was on developing confidence in their decision making.

The richest sources of learning seemed to come from work experience itself and communications and interaction with coworkers, mentors, patients, and caregivers in everyday practice.

So you kind of learn by way of your work experience and exposure to the world of work. Participant 2—Interview

If work was a lake, I feel there is always someone next to me in a boat with an outstretched hand. Participant 1—Journal

As noted in the previous section on the clinical environment/practice community, those novices who had identified a mentor in their first year felt that they progressed more rapidly than they might have without a mentor. Some participants also emphasized their desire to use professional literature and other structured educational opportunities to advance their learning.

I need to read more . . . just to keep going over things and making sure I’m on top of it . . . and plus the more people you see, the more examples you have in your head about certain diagnoses and stuff. Participant 4—Interview

As they progressed through the year, the participants became more aware of and more focused on their patients’ responses to therapy versus their personal performance as a therapist. They were better able to anticipate or recognize how patients may respond, see more of the whole picture with the patient, and rely on past experiences with patients to provide appropriate interventions. It is in these later quotes that self-reflection on past and present experiences becomes more visible and serves as a resource for their professional learning and development.

Even with the difficult patients, you kind of learn how to handle them, you know what’s going to work and not going to work. You kind of see some patterns with patients. You start to evolve. Participant 3—Interview

I had another challenging case . . . these last few weeks. I learned a great deal about tragedy, struggle, and triumph from this young girl; more than she will ever know. I will remember this patient for years to come. Participant 10—Journal

By the end of the first year, participants expressed much more willingness to take on new evaluations with any diagnosis without hesitation.

I feel that [early] last year I felt more comfortable with certain diagnoses, and I’d just go in and do the evals, but it seems like now I can take any eval and not worry when I go in. Participant 4—Interview

Towards the end of the first year, the participants’ learning was still primarily directed inward, but an outward turning began to emerge as they prepared to enter their second year of practice. Shifts occurred from a focus on general skill and knowledge building to development of more specialized knowledge and an expanded repertoire of abilities. Several participants at this time also began to experience clinical teaching as part of their learning.

From the previous journal, I think I talked about how it was weird to be a teacher to the new therapist who came in, so that’s a learning experience. Even though you’re teaching, you’re learning at the same time. That was a good experience. Participant 1—Journal

Growing Confidence
Our participants experienced increases in confidence and independence over the first year. For our purposes, we defined confidence as a state of increasing awareness of abilities and competence (including trust in clinical decisions) as perceived by oneself and others. The most notable area of growing confidence throughout the first year was in the area of communication skills, including: talking to patients, caregivers, and other colleagues; listening skills; and interpreting or understanding what was communicated to them. Initially, the participants, somewhat to their surprise, struggled with communication (both verbal and nonverbal).

Just finding something on a common level or trying to understand their personality in terms of how they like to communicate except as a therapist, I feel you have to be fairly open in your communication because you need to learn a lot about the patients in treating them. Participant 5—Interview

Reports of increased confidence most frequently occurred after positive interactions with peers, other professionals, employers, and patients.
These reports included, but were not limited to, positive performance reviews by supervisors and achieving desired outcomes with patients. Often the focus was on the participants’ communication with patients or other health care professionals and reflection on those experiences.

There’s always those experiences where you really feel that you fit. Just the interactions with the physicians more and then noticing you and then coming up to you and saying, “Hey, are you working with my patients? How are they?” Participant 4—Interview

The most notable advances in communication skills occurred from the middle to the end of the first year (between 6 and 12 months) when the participants became more sensitive to the dynamic and nuanced aspects of communication and recognized the centrality of attending to verbal and nonverbal communication in interactions with patients and other health care providers. The participants became better able to recognize and handle communication issues before they became problems.

Knowing when the patient is ready to progress to the next step has gotten a little bit easier just by reading people’s faces and that nonverbal communication. Participant 2—Interview

Growth in confidence also was reported after successful resolution of difficult situations or work with challenging patients, even if the therapy goals were not entirely realized. These situations were closely linked with emerging professional identities and role transitions.

I remember being nervous around postsurgical patients when I started . . . but now I don’t really have that nervousness. Participant 9—Interview

Finally, many novices reported an upturn in their confidence following performance appraisal meetings with their supervisors. This may be one contributing factor in the acceleration of confidence during the latter half of the first year of practice.

My regional manager called me the rising star of the north regions, and for once I really believed those words. . . . Feedback like this really helps me to increase my confidence in the care I am providing, as well as in my interactions with patients. Participant 9—Journal

Professional Identity Formation and Role Transitions

Early on, participants were concerned about how to gain respect from patients and colleagues and who to rely on for information to “know the ropes” and make their way through each work day, and they were learning how to work outside of their current comfort zone. As the year progressed, however, participants gradually developed an awareness of their own unique professional identity in their clinical community and developed a clearer and expanded view of their roles as physical therapists. They became comfortable with who they were as individual therapists and team members, thus opening the door for thinking about who or what they might become in the future.

Now I am becoming more part of the team, I find senior therapists coming to me with questions. . . . It’s nice to know that I can offer ideas and suggestions even though I may not always have as much experience. I feel that my opinion is valued. Participant 10—Journal

As the year progressed, the participants recognized the value of their role and moved rapidly forward into taking social responsibility for patients, being patients’ advocates, and seeking out leadership roles. They were able to delegate tasks and recognized how to keep others involved. They recognized their improving ability to prioritize activities and responsibilities.

It is my license and I am educated to determine when a patient should or should not be discharged. I don’t think that someone in business administration should make decisions that they are not trained to make. Participant 2—Journal

The participants reported an increasing awareness of their role in not only the clinical community but also in the profession and in the social community outside the clinic walls.

I feel I have more confidence in all aspects of what I do, both within the clinic and outside of the clinic. Participant 3—Journal

So much relies on how you communicate with patients, with other therapists, with support people, and with other people in the health professions . . . general getting to know your patient . . . along with professional communication across the whole of health care. Participant 3—Interview

By the end of the year, most participants were expanding into new roles and beginning to envision and chart longer-term career paths. They were looking forward to new challenges and responsibilities as part of their role.

One thing that has been kind of neat is that my supervisor had started giving me a lot more responsibilities. . . . I feel like he comes to me with a lot more questions now than he used to, and for advice. Participant 11—Interview

I see myself playing an important part in whatever I choose to specialize in. Participant 11—Interview

The experiences of participants were not consistent across all domains. Our participants were individuals working in a variety of settings. The reported experience of job stress or strain is one area where there was considerable variation in experiences across
our sample. Some participants reported high levels of stress that decreased with experience, some reported low levels of stress, and others had intermittent episodes of high stress associated with either their personal life or their professional life. There is a small body of work in physical therapy on stress and burnout, with variable results (for American examples of this research, see Campo et al, 59, Balogun et al, 60 and Wandling and Smith61). The classic work of Maslach62 viewed burnout as being linked to the interplay of many factors—contextual, interpersonal, and personal. It is not surprising that the experiences of our participants varied in this regard.

Discussion
The purpose of this study was to explore and describe the experiences, thinking, learning, and development of promising novice physical therapists during their first year of practice. The first year of practice, when a new therapist begins to assume full responsibility for patient care and seeks to become integrated into the clinical community in which he or she is working, is an important transition period we know relatively little about. For our sample of novice therapists, we identified 4 core concepts that appear to be tightly integrated in a developmental process that is largely focused inward on individual learning and growth in the contextual surround of the clinical practice community. These 4 concepts—the clinical environment and practice community, learning through experience, growing confidence, and emerging professional identity and role transitions—form the basis of our conceptual model (Fig. 2).

In their most recent conceptualizations of expert practice in physical therapy, Jensen and colleagues10 posited that professional formation is a key developmental process in novice-to-expert transitions. They described professional formation as a process that incorporates change within an individual, as well as social and professional enculturation; professional formation provides a scaffold for the achievement of professional competence that is grounded in social and moral engagement in a community of practice. Our findings reveal what we believe to be the “seeds” of professional formation for our therapists. The results point to the pervasive, highly contextualized and embedded nature of learning that occurred in the practice communities as these novices began their careers. A great majority of the learning described by our participants was ignited through social encounters and interactions with patients, caregivers, coworkers, and mentors, among others.

The conceptual model we have proposed suggests that much of the learning and change the participants experienced in their first year of practice was directed inward and was reflected in gradual growth of self-confidence in their communication and relational skills, practical skills and knowledge, and clinical problem-solving and decision-making abilities. There was a dynamic interaction among engagement in the practice community, individual learning and growth, and the emergence of a professional identity associated with role transitions.

Clinical Environment as a Community of Practice
The clinical environment was the community of practice for our participants and exerted a powerful influence on the novice in the first year of practice. The environment has the potential to influence the novice in either a positive or negative direction, depending on the novice’s perception of acceptance in the community and support for his or her development by coworkers. Those in clinical settings with a formal mentorship program found that the mentors’ support for “learning the ropes” was especially critical in the early months of practice. Our participants, who had mentorship, including one therapist enrolled in a residency (participant 5), felt that interaction with their mentor enhanced their learning.

In a recent study of novice nurses, Wolak and colleagues65 found that the most influential factor in professional development during the first year of practice was mentorship assistance. In a study of physical therapists and occupational therapists during their first year of practice25 showed that access to mentors and support enhanced new practitioners’ understanding of “what it meant to be a therapist.”25(p24) Although formal, one-to-one mentorship relationships can exert a positive influence on new practitioners, we also found that many of our participants described the development of informal relationships with coworkers in the practice community that served as supports for their learning during the first year.

Across many professions, there is increasing interest in and evidence for the critical importance of social context and the community of practice for professional learning and development.42,45,65–71 Perspectives on learning that focus on the situated and social nature of learning and the importance of co-participation in practice communities have been widely discussed in the literature for several decades.67–74 These perspectives, sometimes referred to as “situated learning” or the “social construction of knowledge,” encourage us to think about learning as a process and product of social interaction, engagement, and meaning-making in authentic practice contexts,
not as the mere acquisition of knowledge that takes place in the heads of individuals. These views also draw heavily on several theoretical perspectives of learning and development, including that of Russian psychologist L.S. Vygotsky.75–77 Sociocultural theories of learning, also referred to as sociohistorical theories, emphasize the essential contribution of social engagement to learning and development and posit a directional path of learning that moves from the external plane (social) to the internal (psychological) and then outward again as an individual grows into the intellectual and cultural practices of his or her community.75

Lave and Wenger68 first described learning in social context as a phenomenon that occurs across a continuum of participation in a practice community—from “legitimate peripheral participation” to full participation. This view is congruent with sociocultural theory and resonates with the findings in our study, where novices, by definition, were working in a community of practice with therapists more experienced or expert than they were. At first, they felt like peripheral, albeit legitimate, participants but by the end of the first year, for the most part they felt like integral members of the clinic “team.” Across the course of the year, they also described how they often adopted or appropriated certain behaviors, skills, or forms of knowledge based on observations and their interactions and dialogue with others.

**Learning Through Experience**

Learning through experience was the first core theme to emerge in our data, and it remained the strongest for our sample of participants. For this reason, it is the thickest concentric circle in our conceptual model embedded within the practice community, and it surrounds and contributes to the growing self-confidence and emerging professional identity of our novices (Fig. 2). Learning took place in many ways and assumed many forms, but the most powerful source of learning appeared to be “learning through doing” in an authentic workplace environment with all the associated challenges and successes that are part of the everyday work of physical therapists. Within this experience, which could be positive or negative, interpersonal interactions with patients, caregivers, family members, coworkers, mentors, and others often played a large role in what was learned.

Similar to Solomon and Miller’s findings,11 many of our therapists described some of their struggles early in the year with communication and understanding what the patient or others wanted or needed from them. Their focus often was on their performance as a therapist, especially when they encountered challenges in communication or capturing the meanings of others. They were surprised how difficult it was at times to figure out exactly what the patient wanted and how to best work with the patient and family to achieve targeted outcomes. The knowing what to do for and with this particular patient at this time was puzzling. Gradually over the first year, however, our participants became more aware of the critical importance of understanding the patient’s perspectives and beliefs and integrating them into their interventions. They learned that to do this, the therapist must listen well, facilitate the patient’s ability to share his or her story, and seek to understand the meanings that patients hold. It appeared that our novices were juggling the tasks of learning about self along with the tasks of learning about and through others, including gaining more insight into the lives and needs of their patients. Interestingly, when we asked our novices what they perceived to be their most important clinical skill during interviews conducted in the last half of the first year, they almost always identified communication as their most important clinical skill. Furthermore, reflections on the challenges associated with the development of this skill often appeared in journal data. One participant expressed it this way in response to a question about essential clinical skills:

> Communication . . . developing rapport and trust with your patient and your patient’s family, especially with little kids, being able to get them to trust you to let you into their space. . . . Once in a while, I have a kid that’s very challenging that has a lot of sensory issues, and it’s hard sometimes to develop that relationship. Participant 10—Interview

Although our participants spoke frequently about learning through experience, it is worthwhile noting that our journal and interview data also illustrate that these novices were engaging in reflection on past and present experiences and that this contributed to their learning and sense-making about their experiences. Educational theorists John Dewey78,79 and later Donald Schon80,81 have long emphasized the critical importance of authentic experience, encounters with genuine problems, and reflection on and in experience as essential sources for learning and professional growth. All of our novices were doing all of these things. Dewey79 wisely reminded us, however, that not all experience is educative, so it behooves us to further explore what aspects of early experience foster learning for novice practitioners and advance “authentic professional learning.”45

**Professional Identity Formation: Who Is the Novice Becoming?**

An initial goal of our novice physical therapists was to become an integrated and respected member of the clinical community in their work.
environment. Our findings and conceptual model suggest that the emergence of a clearer professional identity for our participants is related to their gradual integration into the practice community, their active learning and engagement in that community, and their growth in self-confidence and trust in their knowledge and abilities as therapists. By the conclusion of the first year of practice, our therapists had developed a clearer view of who they were as individual practitioners and what their unique contributions were or might be within that community. Associated with this realization, they also began to assume new roles in the clinical community and anticipate who and what they might become in the future.

The experience of our novice therapists is consistent with descriptions of “identity work” in professional practice communities, as described by many authors in a variety of disciplines.29,42,45,68,69,71,82,83 As Wenger has pointed out, when we start to focus on the concept of identity it is easy to think of it in only individualistic terms, and he cautioned against this:

Building an identity consists of negotiating the meanings of our experience of membership in social communities. The concept of identity serves as a pivot point between the social and the individual, so that each can be talked about in terms of the other.69(p145)

Lave and Wenger68 referred to the “crafting of identities” in practice and discussed how the nexus of the self and the social shapes the construction and sometimes deconstruction or reconstruction of identity. Furthermore, there is a reciprocity inherent in the identity formation process: who you are becoming shapes what you know or come to know, and what you know shapes who and what you are becoming.

Our findings with this sample of novice therapists resonate with these theoretical perspectives and are congruent with descriptions by Plack82 of the learning and development of physical therapist students and new graduates in the United States based on a cross-sectional qualitative investigation, as well as findings from others studies of students and novices outside of the United States.11,22–25,65 Plack’s study82 resulted in the development of a model of learning in a physical therapy community of practice that incorporates many of the findings from our investigation, and one of her recommendations for future inquiry was the need for longitudinal research.

For 2 of our participants, dissonance arose between their emerging and clearer professional identity and their associated beliefs, commitments, and aspirations and the cultural norms and practice in their work environments. This dissonance and discomfort led to their departure from their clinical agencies close to the end of their first year of practice.

**Limitations**

Participants were selected from only 4 universities and were limited by the inclusion criteria. However, we did provide justification for this purposive sample in the “Method” section. The study did not include a comparison with participants who did not meet the inclusion criteria.

The novice participants were located in a variety of practice settings with different job requirements, limiting their control of the environment. Limited actual observation of the participants occurred. The results were obtained primarily from interviews and reflective journals. Recognizing the importance of the clinical practice environment on our novices, we plan further study that will incorporate field observations and field notes to better capture and explore this dimension of our model.

Our sample did not include nontraditional students whose professional development may have followed a different path. All participants were practicing in their first year of licensure as a physical therapist; however, 2 of the participants were in a bridge program from a master’s degree to a DPT degree during this study period. Not all participants were at a DPT level in their first year of practice.

One could argue that the structure we provided for deliberate reflection (multiple reflective journals and interviews) may have accelerated or enhanced the participants’ learning and insight into their own development. On the other hand, there is evidence that the reflective process is an important aspect of professional development and perhaps should become a more explicit, deliberate, and prominent feature of early work experiences.6,10,27,38,84

**Conclusion**

Based on the experiences and reports of our participants, the first year of practice is an exciting, challenging, and rewarding period of personal and professional growth. Over the first year of practice, participants grew in confidence, and by the end of the year showed signs of being ready to move into new roles. In their initial practice, there was a focus on the mechanics of practice (eg, juggling caseloads and paperwork, learning techniques, finding mentors). By the end of the year, some of the participants were taking pride in becoming mentors to others and expressed satisfaction in their own growth. There was increased evidence of planning for professional growth, for the “next step” in their careers. Their initial year began as focused on self and on how to
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... enhance their personal growth, self-confidence, knowledge, and communication skills.

An important theoretical concept, supported by our findings, is that learning is facilitated through social encounters. There is a dynamic interaction between learning and developmental change that occurs within the individual in the community of practice. There is a critical need for further exploration and analysis to enhance our understanding of learning and developmental trajectories of promising young novice therapists. There also is a significant need to explore and analyze the influence of the environment in communities of practice. Structured learning experiences and facilitation of mentorships are likely to enhance growth and development during the first year of practice.

Further longitudinal study of the developmental trajectories of these and other novice therapists is warranted. We plan to continue the present investigation over several of the early years of practice for our participants.

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Institutional review board approval for this study was received from all 4 participating institutions.

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Appendix 1.
Example of Reflective Journal Guidelines and Questions Provided to Participants at the Initiation of the Study

Journal Guidelines:
Please keep a written reflective journal to document your experiences while you work on this project over the next year. Below are some guidelines to help you with this task.

1. Date each entry.
2. Please make a journal entry at least once per month (preferably every 2 weeks, if possible).
3. Please use pseudonyms when referring to patients or other individuals in your journals.

Journal Questions:
Use your journal writing for the following kinds of reflection that may focus on yourself, your patients and their caregivers, the clinical setting and professional interactions in that setting, professional roles, the health care agency or health care system in general, and so on:

1. “Thought work”—puzzling over a situation or experience; re-enacting and reconstructing what happened so you can gain a deeper understanding of the experience. In retrospect, are there things you would have changed or done differently? Why? Are there things you will do the same? Why?

2. Writing about a “lesson learned.” What did you learn? How did you learn? Why was this a good learning experience, or was it? These lessons learned can be personal or professional learning.

3. Writing about your feelings about people (self, patient, others) or situations that arise in the clinical setting. What did you experience? Did you learn anything about yourself through the experience? Was this a good learning experience? Why?

4. Writing about what aspects of your role as a physical therapist you find most interesting, challenging, or surprising. What aspects of your position cause the most stress? What aspects of your position produced the greatest rewards?

5. Writing about how you see yourself changing over time (ie, your personal and professional development). Where were you personally and professionally when you began your work as a therapist? Where are you now? How have you changed? What has not changed?

This list is not necessarily all-inclusive—just something to help you get started. Feel free to write about any thoughts related to your professional practice and development.
Appendix 2.
Baseline Interview Questions and Probes and Selected Examples of Follow-up Interview Questions Over the Course of the First Year of the Study

- What factors did you consider in choosing your first job? Of these, which 1 or 2 would you consider most important in your choice? Why?
- How did you go about the process of investigating and selecting your first job?
- What factors do you think influenced the employer’s decision to hire you for this position? Why do you think you were hired?
- What are your hopes and expectations for yourself as you begin your first job as a physical therapist? Do you have any plans for helping you meet your expectations? What are they?
- What are some of your fears or concerns as you start your first job as a physical therapist? What are your plans for addressing some of your concerns?
- What are your hopes and expectations for the clinical agency and staff where you have chosen to work first? What are some of your fears or concerns? Is there an individual on staff who you have identified as a possible mentor, teacher, or supporter for your early work in this site? If so, how? Why?
- What are your plans for addressing some of your concerns?
- What are your hopes and expectations for the profession of physical therapy as you move into the field and begin your work in the profession and the health care system? What are some of your fears and concerns for the profession?
- Where do you see yourself personally and professionally in 1 year? Two years? Five years?
- How do you view your first job in relation to these career and life plans or goals?
- Is there anything else you would like to tell me or add to what we have discussed today?

Selected Examples of Follow-up Interview Questions

- Exemplar type of question: Please describe an experience or event that you feel shaped your learning and development as a therapist, and the feelings and thoughts associated with it, in detail.
- What has been your most positive experience as a physical therapist over the past 3 months? Why?
- What has been your most challenging or difficult experience over the past 3 months? Why? How did you respond in that situation?
- Where do you feel you’ve experienced the greatest growth and learning during the past 3 months?

* In follow-up interviews, some questions related to ongoing review of reflective journal data by the investigators. Also, several of the questions in the baseline interview were repeated as a point for comparison over time.
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