# Translation of Standardized Patient Encounter Performance and Reflection to Clinical Practice

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**Context:** Standardized patient (SP) encounters have been incorporated into many healthcare education programs, including professional athletic training programs, yet there is little exploration about the use of SP encounters in postprofessional programs and continuing education opportunities.

**Objective:** To explore athletic trainers' translation of skills and reflections in clinical practice after an SP encounter and debriefing session.

**Design:** Qualitative action research.

Setting: One-on-one interview.

**Patients or Other Participants:** Fifteen learners from the same postprofessional athletic training degree program (males = 3, females = 12; age =  $25 \pm 5$  years; certified experience =  $3 \pm 3$  years) without previous SP experience participated in this study. All learners had to be employed full or part-time in a clinical setting.

**Main Outcome Measure(s):** Sixty days after an SP encounter related to patient-centered care during an orthopedic evaluation and subsequent debriefing session, participants completed an online, audio-only interview after a 10-question, semistructured interview protocol. A 3-person primary coding team identified domains and categories using the consensual qualitative research tradition.

**Results:** Three main domains emerged from the study: (1) limitations of a novice SP experience, (2) practice transformation, and (3) promoting self-reflection. Participants reported that the initial SP encounter in their postprofessional education was a new experience through which they were able to implement new skills learned in their previous courses. Translation of newly learned ideas or ways of thinking to clinical practice varied among clinicians and their job settings. Collaborative thinking and self-reflection were key components. Participants were able to identify with their classmates' struggles and triumphs and to take away new learning experiences.

**Conclusions:** SP encounters are a useful instructional and assessment technique for athletic trainers in a postprofessional athletic training degree program to promote self-reflection and to translate newly learned skills to their clinical practice, while nerves and anxiety influenced the learners' ability to suspend reality.

Key Words: Simulation, clinical skills, clinical education

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#### **KEY POINTS**

- Learners were able to translate outcomes into clinical practice, specifically related to patient-centered care, after a standardized patient (SP) encounter and debriefing session.
- Learners engaged in SP encounters for the first time may face challenges with suspending reality and seeing how to translate specific skills into practice if the patient is not closely aligned with their daily practice environment.
- SP encounters and debriefing sessions are effective at facilitating self-reflective practices, including engaging in daily debriefing with colleagues and coworkers and a willingness to be more vulnerable because of the experience.

## INTRODUCTION

Research has identified that learners seek out a postprofessional athletic training degree program for several reasons, including career intentions and professional growth.<sup>1,2</sup> Additionally, the individuals who seek postprofessional athletic training degree programs state they felt the need for more autonomous clinical experiences with guided support.<sup>1,2</sup> The ability to adapt and advance one's practice is driven by the principles of critical thinking, metacognition, and the aspirational journey of clinical expertise.<sup>3</sup> In order to achieve these, postprofessional degree programs accredited by the Committee on Accreditation of Athletic Training Education (CAATE) implement standards to advance clinical practice through a combination of didactic and clinical experiences.<sup>4</sup> Supplementing the education of adult learners is important in the field of healthcare, as the standards of practice are constantly changing.<sup>5</sup> Previous research<sup>6</sup> on continuing education in athletic training identified that completing an athletic training-related academic course-rather than conference, symposium, or home study course-had the greatest perceived effects on improving knowledge, specifically clinical abilities and skills. While the professional degree program standards are focused on specific curricular content (formerly the educational competencies), the content areas for postprofessional degree programs encourage critical thinking through the postprofessional core competencies: evidencebased practice, interprofessional education and collaborative practice, quality improvement, healthcare informatics, professionalism, and patient-centered care.4 Several means of advanced training and education are available for the practicing athletic trainer, including residencies, fellowships, specialty certifications, academic doctoral degrees, postprofessional master's degrees, and the advanced practice doctoral degree. An accredited postprofessional doctoral degree requires both a research and clinical experience that develops advanced skills within the scope of practice. As such, innovative ways to assess the clinical experiences of the practicing clinician are necessary to ensure advanced decisionmaking and critical thinking.

Standardized patient (SP) encounters serve as a viable clinical practice assessment regardless of academic level. An SP is an individual who has been trained to portray, in a consistent and standardized way, a patient with a medical situation.<sup>7</sup> The SP encounter requires several steps before inclusion within the curriculum, including the development of a reliable case and extensive training with the patient actor.<sup>8,9</sup> If executed properly, the SP encounter has the potential of introducing a high level of fidelity, thus creating a perception of realism that allows the learners to immerse themselves in the experience.<sup>7,10,11</sup> The SP encounter provides the learners the ability to experience scenarios and patient cases in a controlled environment that reduces the risk of potential harm.<sup>7</sup> The reduction of potential harm to the patient through the structured experience has been noted as a means by which to increase the willingness of the learner in the encounter.<sup>7</sup> Additionally, SP encounters should be introduced with components of prebriefing before and debriefing after the patient interaction.<sup>10</sup> The debriefing session is believed to be one of the most influential components of the learning experience, as it allows the learners to describe the experience, analyze their performance, and apply this experience with provided external feedback to future clinical practice.<sup>12,13</sup> The SP encounter is a common educational technique in medicine used to advance learning.7 An SP encounter can serve as a formative and summative assessment, or for teaching and instruction, as it replicates job-related experiences.<sup>7,14</sup> These mechanisms for evaluation can help to identify gaps in education, clinical abilities, and interpersonal communication to determine areas for improvement.<sup>15</sup> Standardized patients are being incorporated into many professional athletic training education programs,<sup>7,16–19</sup> yet there is no exploration about the use of SP encounters for postprofessional athletic training degree programs. Therefore, the purpose of this study was to explore how an SP encounter with debriefing session influences the clinical practice of an athletic trainer enrolled in a postprofessional degree program.

## METHODS

We engaged in an action research study that used a qualitative research approach, specifically the consensual qualitative research (CQR) tradition, with a team of 3 researchers (K.N.S.K., Z.K.W., L.E.E.) and one external auditor (not an author), to focus on the translation of the SP encounter performance into clinical practice.<sup>20</sup> Action research begins with an established question from the classroom or workplace and is intentionally designed to embark upon practical changes.<sup>21</sup> This method of data collection and analysis allowed the research team to collect data across participants and to gain insight into their personal experiences. The team developed a consensus interpretation of the data, allowing multiple times to judge the data throughout the data analysis process. This approach fostered a variety of perspectives when interpreting the data and allowed the researchers to collect

## Table 1. Participant Information

Pseudonym	Age, y	Sex	Experience as a Certified Athletic Trainer	Current Job Setting	Highest Degree Earned
Chandler	27	Male	6 y	College/university	Postprofessional masters not in athletic training
Claire	22	Female	5 mo	Secondary school	Professional bachelors
Ellen	24	Female	5 mo	College/university	Professional bachelors
Emily	22	Female	4 mo	Physician practice	Professional bachelors
Emma	22	Female	4 mo	College/university	Professional bachelors
Janice	28	Female	6 y	College/university	Postprofessional masters in athletic training
Joey	28	Male	6 ý	College/university	Postprofessional masters not in athletic training
Judy	24	Female	2 y	College/university	Postprofessional Masters not in athletic training
Melissa	39	Female	8 ý	College/university	Professional bachelors
Monica	25	Female	3 y	College/university	Professional bachelors
Phoebe	22	Female	4 mo	Secondary school	Professional bachelors
Rachel	21	Female	3 mo	Secondary school	Professional bachelors
Regina	24	Female	2 y	College/university	Professional bachelors
Ross	23	Male	1 y	Secondary school	Professional bachelors
Ursula	28	Female	8 y	Physician practice	Postprofessional masters not in athletic training

qualitative data from postprofessional learners in their current clinical practice settings. $^{20}$ 

## Participants and Setting

After obtaining institutional review board approval of the study, we recruited a purposive sample of postprofessional learners with no previous SP experience, enrolled full-time in a CAATE-accredited postprofessional Doctor of Athletic Training program. To avoid dual role conflict, sometimes a concern with action research, we used a multiphase recruitment process. At the start of summer courses (the first semester in the program), the lead investigator sent a brief video (<5 minutes) to all potential participants via email to describe the research. We sent a follow-up email 3 weeks later with the informed consent to provide a written explanation of the study. As part of class, the course instructor hosted and attended a synchronous class session via videoconference to describe the SP assignment and course expectations. The course instructor then left the session to allow private and confidential discussion about the project with the primary investigator to allow the learners to ask any questions they had related to the research project, without fear of coercion by the course instructor. While the SP encounter was required for the course and assessed as part of the course grade, as part of this study we mitigated the risk of coercion by removing the course instructor from the informed consent and interview process.

Fifteen learners (males = 3, females = 12; age =  $25 \pm 5$  years; certified experience =  $3 \pm 3$  years) participated in this study. The demographics for the participants and pseudonyms are provided in Table 1. All learners were enrolled in the same course, which had a specific focus on developing patient-centered care skills and performance of a comprehensive and systematic injury evaluation maintaining a whole-body approach to healthcare. The learners were provided with a detailed assignment description and all assessment tools associated with the assignment at the onset of the semester, and these tools were discussed during the synchronous class session. The brief assignment summary read as follows:

Standardized patient (SP) and simulation experiences are used to help students develop confidence, while providing a safe environment to practice clinical decision-making. SPs are trained actors portraying the signs and symptoms of a particular condition, injury, or illness in a consistent fashion. This activity is intended to help you develop your approach to whole-person, integrative health care through an SP encounter. You will spend 30 minutes interacting with a trained standardized patient during the face-to-face session. You will conduct a clinical examination and discuss the outcome of your assessment with the patient during this encounter. You will also engage in a self-assessment prior to the debriefing session.

After the SP encounter and debriefing session, a research assistant sorted and extracted data for individuals who chose to participate in the study, providing the lead investigator with a list of interested participants and their contact information. We maintained the confidentiality of the participants using pseudonyms.

## Instrumentation

We created a semistructured interview protocol consisting of 10 open-ended questions. The questions were created to investigate the study objectives. The interview protocol was reviewed by the external reviewer (S.E.W.), who had experience with the consensual qualitative research tradition (Table 2). The semistructured format of the interview allowed for follow-up conversation regarding participant responses. After development and review, the interview protocol was pilot tested with a graduate of a postprofessional athletic training degree program with previous SP and qualitative research experience to provide feedback on the lived experiences regarding SP encounters and the flow of the interview protocol. No revisions were made to the interview protocol after the pilot study feedback was obtained.

## Procedures

At the scheduled class session, the learners arrived to the simulation center for their individually scheduled SP encoun-

#### Table 2. Interview Script

#### Questions

- 1. Could you talk about the SP encounter and how you feel you did?
- 2. Could you talk about your feelings regarding the debriefing following?
- 3. Do you feel you learned anything from the SP encounter?
- 4. Do you feel you learned anything from the debriefing?
- 5. Have you thought back to the SP encounter while treating patients?
- 6. If yes, could you describe how and in what context?
- 7. Do you feel you have changed your patient care based on something that happened during the SP encounter? During the debriefing?
- 8. Have you found yourself reflecting on your clinical practice since the debriefing session?

Abbreviation: SP, standardized patient.

ters. The learners waited in a waiting room in groups of 3 preparing to begin the encounter, and the lead investigator provided a copy of a blank informed consent form to each learner. Regardless of whether they chose to participate or not, they were given the opportunity to read the consent document, ask any questions, and then place their consent form into a sealed envelope to ensure confidentiality.

The learners experienced one SP encounter that was developed using best-practice guidelines in simulation design (assess needs, set outcomes, align needs with case format, develop and validate the case, maximize fidelity, ensure learners are apprised of objectives and assessments, and provide a prebriefing and debriefing session).<sup>10</sup> The cases were adapted from real patient cases. After case development was completed, both practicing athletic trainers (K.N.S.K., J.M.B.) and educational researchers (L.E.E., S.E.W.) completed a content validation of the case. The learners experienced one of the following 3 cases: (1) an 69-year-old active woman with an os trigonum complaining of posterior ankle pain and swelling; (2) a 25-year-old active woman with rheumatoid arthritis complaining of general joint pain, swelling, and pain in the knee that she experienced during her job as a kindergarten teacher; and (3) a 25-year-old active man with chronic low back pain experiencing drop foot. The setting for the encounter was a physician examination room in a simulation center. Before entering the examination room, the learners read a presenting situation brief on the door that stated the patient was being seen in a community fitness/ wellness facility to establish environmental fidelity. The SP actors for these cases were selected as they were near the age of the developed case and had undergone 3 to 5 hours of training before the SP encounter assessment day. While in the SP encounter, the learner was tasked with completing an initial evaluation that should have included a focused history, physical examination, and discussion with the SP regarding findings and the plan of care. The SP encounter was assessed using 3 evaluations, including that of the instructor along with SP patient satisfaction and learner self-reflection evaluations. The instructor evaluation included the concepts of communication and interpersonal skills, data gathering and evaluative skills, patient education, and overall clinical performance. Approximately 24 hours after the SP encounter, the learners

engaged in a debriefing session utilizing the diamond-debrief technique.<sup>13</sup>

Participants were invited to complete a one-on-one, audioonly, online interview with the primary investigator 60 days after their SP encounters. The participants who volunteered to participate in the research were contacted via email by the primary investigator to schedule a 30- to 45-minute meeting via the Internet. The participants were sent a link that allowed the primary investigator to digitally record the phone call via Zoom (Zoom Video Communications, Inc, San Jose, CA). The participants were aware of the audio-only option, and the research team, other than the primary investigator, remained blinded to their identities. After transcription was completed utilizing an external transcription company (Rev Communication, Inc, San Francisco CA), the participants were sent their deidentified transcripts to determine the validity of their responses via member checking. The participants were given the primary investigator's contact information and a set period (14 days) in which to dictate any changes or updates to their responses after the review.

## Data Analysis

The data were analyzed by a primary coding team that consisted of both of novice (n = 1) and experienced (n = 2) members familiar with the CQR tradition and semistructured interviewing. All 15 transcripts were coded, and the participants were offered the opportunity to complete member checking. After member checks were completed, analysis by the 3-member primary coding team (K.N.S.K., Z.K.W., L.E.E.) was initiated to identify the domains and categories. Once the first round of codes were completed, the transcripts were cross-referenced by the entire primary coding team. The team members discussed the domains and notes with each other to ensure that all members agreed on the consensus codebook, and the final codebook was generated. The cross-analysis included characterizing the frequency of occurrence of categories from the transcripts.

The frequency labels used in the data analysis were based on the number on interviews (n = 15), with *general* indicating that the category appeared in all (15) or all but one (14) of the transcripts, *typical* indicating categories that were included in more than half (8) but less than 14 of the transcripts, *variant* indicating categories that appeared in between 4 and 7 of the transcripts, and *rare* indicating categories that were included in 2 to 3 of the cases.<sup>22</sup> Any finding that appeared in only one transcript was not reported in the data analysis.<sup>22</sup> Once all cross-analyses were completed, 5 transcripts were sent for external auditing. The external auditor confirmed the codebook of the completed and coded transcripts through written and verbal feedback.<sup>22</sup> Trustworthiness was established using multianalyst triangulation, external review, and member checking.

## RESULTS

Data analysis via the CQR design revealed 3 main domains, with 8 categories related to the participants' first experience with an SP and how they were or were not able to transfer learned skills to their clinical practice. The frequency of participant cases per category is displayed in Table 3 and in the Figure.

#### Table 3. Domain and Category Frequency Counts

Domains and Categories	Frequency	Count
Limitations of novice SP experience		
Diagnosis mindset Unable to suspend reality Nerves and anxiety	Typical Typical Typical	12/15 13/15 10/15
Practice transformation		
Application of course objectives during SP Unable to transfer skills to other	Typical	11/15
situations Changes to practice after the SP	Typical General	13/15 15/15
Promoting self-reflection		
Vulnerability Peer-to-peer learning	Typical General	12/15 15/15

Abbreviation: SP, standardized patient.

#### Limitations of Novice SP Experience

As a result of the inclusion criteria, many of the participants often described themselves as *novice* because of their lack of experience with SP encounters and because they had less than 3 years of clinical experience. Regardless of whether or not the learners were informed about the initial SP encounter (including an extensive assignment description with all grading criteria, a 1-hour recorded synchronous session, guided imagery on what to expect, and low-stakes grading impact), they were fixated on grades and felt underprepared for what to expect. This SP encounter was one of the first educational experiences encountered at the end of their first semester of postprofessional education and was perceived as an all-encompassing event that allowed the learners to incorporate all that they had learned in courses that semester to gain feedback.

**Diagnosis Mindset.** Learners entered the patient encounter with a diagnosis mindset, which was demonstrated by a focus on the clinical diagnosis and a lack of comfort with telling their patients that they may be unsure of what is wrong. Phoebe said the following: "... especially because I didn't know, I couldn't come up with a diagnosis for my patients so I [thought], 'Well, I don't know how to help you because I don't know what's wrong,' so what I wanted to do was refer but I felt like I couldn't because I wasn't sure."

Learners struggled with how to continue the care of their SP case in relation to what they would typically do in their clinical practice. Ellen stated, "I'm so caught up in the regular format of evaluations that I wasn't really sure where it would have gone," where she found it difficult to develop a plan of care. Ursula also struggled to describe a plan of care for her SP; she stated "We're just going to stop there and [say], 'Okay, this is obviously what's going on. Either we need further testing, or we've got to calm everything down before we can figure [it out]' ... because you never want to do further harm to the patient."

Typically, learners experienced a desire to solve the diagnosis "puzzle" instead of applying the principle of the course, patient-centered care. The inability to determine the diagnosis limited their learning experience, as they were unable to develop a plan of care.

Unable to Suspend Reality. Participants often identified with not being able to fully invest in the SP encounter, stating that it was too far removed from their immediate reality. Monica expressed her inability to separate her being a part of an educational assessment and a learning opportunity, associating it with typical test anxiety: "I just personally struggled with focusing on my patient instead of focusing on the fact that I was being graded and watched from a different room." In some instances, the participants were unable to align the goals of the SP encounter with their performance. The participants' attention sometimes shifted to the idea of being watched, graded, or reviewed instead of participating in a meaningful patient encounter. Janice said, "To feel like they're evaluating on certain things; it's an overall encompassing situation that I'm being evaluated on, not just on my special tests." Joey expressed that the experience was beneficial, because it had been so long since he had gotten feedback, given his years of experience:

It's been a long time since somebody has sat me down and really watched me evaluate somebody, so I think it was a good thing. I'm glad we're doing them. It's good for me to get put on the spot. I'm used to doing that to other people at this point now.

Some learners struggled to suspend reality and considered the SP encounter as a real-time patient/practitioner interaction, while others considered this was an opportunity for feedback. Even if fidelity is high, learners remarked that the "graded" experience made it difficult for them to be mindful with the patient.

**Nerves and Anxiety.** Many participants described a general feeling of nervousness and anxiety with regard to their first SP encounter. Learners, like Emily, indicated that their emotions affected their first SP encounter: "I think it's a scary thing because it was something I had never done before." Rachel went further, describing that her fear came from being watched or graded by her professors:

I felt like it was not my best representation of how I can evaluate somebody. I think part of that was nerves playing into it because I've never done anything like that.

Claire did not feel nervous to start, but then as the SP encounter began, anxiety grew: "I wasn't really all that nervous for it until I got into the room and the cameras were on me and I had this patient sitting in front of me and I only had 30 minutes to look at them."

During the group debriefing session that occurred after the SP encounter, the participants engaged in a guided discussion. The participants reported mixed emotions about talking in large groups about things that went wrong or not the way they intended. Joey stated: "I don't think that for me, at least, that a group of 25 people, I didn't find it to be especially helpful." Emily felt the debriefing session was beneficial:

It was really good to have the debrief. I think it opened up my mind a little more because when I was evaluating I was narrow focused. After having the debrief I realized I missed this whole other side of things that I wouldn't have necessarily even thought of.



Nerves and anxiety affected the learners' first SP encounter, even with faculty efforts to minimize the fear of the unknown; however, the debriefing session also helped to minimize those fears and help the learners to identify areas for future growth.

## **Practice Transformation**

Transformational knowledge, meaning the shift in what is typical or ordinary in a learner's current educational beliefs,

was described by the participants. The ability to transfer some concepts from the SP encounter, a completely new educational experience, to their clinical practice was commonly seen throughout the interviews as an overarching domain. As the learners returned to their clinical practice, they were able to make patient-centered care and self-reflection habitual, but they also felt limited in applying aspects of the cases to practice as a result of the patient population and setting. **Application of Course Objectives During the SP.** Participants were able to refine their current clinical and patient-centered care skills they had learned throughout their first semester in a postprofessional athletic training program during the SP encounter. These skills were multifaceted. As Monica said, these skills allowed for "being more patientcentered and having a conversation with our patient before I even touch them." It was typical to see participants apply their previously learned course work in the encounter and practice newly learned skills. Claire said, "I think I used an integrative health technique that we had learned in the summer and I was able to treat her [the patient] like a person instead of a patient."

One of the common course objectives participants mentioned was patient-centered care. Regina emphasized the following:

Because we were trained so much about patient-centered care, holistic approaches, I [thought], "All right, it's nothing acute. It's been chronic so what does she want out of this, what is she trying to be able to do in her daily life?" I centered my evaluation off that.

Ursula echoed this, stating, "I was nervous because I was trying to remember to check all the boxes that I've learned from the summer." Although perceived to be difficult, learners were able to apply the patient-centered care skills even on patient populations outside of their normal clinical practice setting. Judy said:

It was difficult because it was a mother of 2 children who didn't have time to go see a physician or an orthopedic specialist. I had to think outside the box and prescribe some home exercises with her and talk about how we could take a more conservative approach and give her different options.

The course emphasis on patient-centered care was evident in learner performance and experiences with the SPs. Even though it was difficult to apply these concepts, the nontraditional patient population may have forced this application.

Unable to Transfer Skills to Other Situations. It was typical for participants to report that they felt they had been unable to transfer skills or behaviors learned during the SP encounter to their clinical practice. Claire expressed that she was unable to transfer as a result of the difference in the patient population, stating "As far as patient population goes, none of them were traditional athletes, so it's not relatable," as she worked with traditional collegiate athletes. Chandler indicated he had not thought back to the SP encounter, and when asked why, he indicated:

Because of applicability honestly. I don't have any postsurgical back patients. I've had a couple low back patients .... But honestly, even when we did that, the SP didn't really pop into my mind at all.

When participants were asked when they think back to the SP encounter, they often noted that they only thought back to it when it was specific to the injury presentation or population. Phoebe explained: "... since my SP was a shoulder patient, I feel like I would think about it a lot more when I was doing shoulder evaluations, but it wasn't the case."

Although learners were able to talk about how their practice changed (see next section), they were unable to recognize that

they were transferring skills because of their fixation on patient population and particular diagnosis.

**Changes to Practice after the SP.** Participants were able to communicate a variety of different ways in which they were able to translate skills or behaviors they learned during the SP encounter to their clinical practice. Monica discussed that she was able to critically reflect on her encounter with the SP and make meaningful changes to her clinical practice, stating

It really made me think about them as a person and not as an athlete. Sometimes they have [many] other things on their mind, and I think the SP put into focus that we're dealing with patients and not just the athlete and their sport skill and sport-specific activities.

Learners also reported more comfort in decision-making with new skills learned throughout the semester. Emma expressed how she applies patient-centered care because of the SP encounter:

I know I'm having a deeper conversation with [patient's] history and being more aware of more of their input. I'm asking more, "Are you okay with this? How about this?" And giving them options, because I know that's what I had to do with my SP: give her a bunch of options to choose from to see what would work with her. So, I've been doing that with my patients a lot.

Learners were able to apply concepts from the curriculum into their patient care. Specifically, the learners focused on patientcentered care over the course of the semester and were able to demonstrate and articulate those characteristics of care 60 days after the SP encounter.

#### **Promoting Self-Reflection**

Participants identified that they thought back to their SP encounter once they returned to their clinical practice setting. Self-reflection is a preliminary step in quality improvement. As the learners considered what to apply to their practice after experiencing the SP, they chose the process of questioning their actions to ensure patients were getting the highest quality care.

**Vulnerability.** When participants were asked questions related to self-reflection, they felt empowered to be more vulnerable in their reflections. Janice stated:

I think immediately out of the SP, I felt like, I've been doing this for 6 years and I know what I'm doing. Then we started to do the debrief and I [thought], "I missed so many things. I can't believe I didn't do that."

Judy described her lack of comfort, but also how she knew she had the skills to help the patient:

[I need to] trust my confidence in myself. I think especially in a situation where I'm not as comfortable (the patient population) [I need] to know that I do have a valuable skill set and I can apply this to other populations.

Clinically, Janice was able to reflect on how she incorporates vulnerability and self-reflection:

Learning not to be so defensive. It usually comes [to me] whenever I'm documenting and I really think "I can't believe I forgot to do this." Then, the next day, discussing that with the patient. I usually do that every day and I think to myself more so now than before.

The debriefing environment helped learners manage their emotional response to the SP, and they were able to translate the act of self-reflection without defensiveness into their daily clinical practice.

**Peer-to-Peer Learning.** Participants were able to reflect on their peers' experiences with their SP cases during the debriefing session. Rachel stated,

I thought the debrief was really helpful and getting input from other people that were in the same situation or from people in other, that worked with the other patients. So, like, everyone kind of seemed like they were in the same boat, like this is a new thing for us.

Claire expressed her emotions being calmed during the debriefing session after hearing her peers' struggles and how they overcame them:

It was good to hear that I wasn't the only one that didn't get it, so that was helpful for me. I also thought it was interesting to hear everybody else's thought process to see how they went about it.

Emily stated, "we're able to collaborate and give ideas to each other and bounce ideas off of each other," echoing the positive impact that peer-to-peer learning has on postprofessional learners. Ross stated:

[1] think it was great to talk as a group amongst the professors, as well as everyone else who had the same patient and shared areas [where] we struggled. I really enjoyed that because I think it helped me understand how other clinicians think about their evaluations and gave me some ways I can improve.

Learners indicated that the sharing of ideas enhanced their perspectives of how they could improve their practice, and this experience still resonated with them 60 days after the SP.

#### DISCUSSION

Continual assessment of clinical practice is necessary for quality improvement of patient care in healthcare services.<sup>23</sup> As quality improvement is a staple of the postprofessional athletic training curricula, there is a need to explore methods of assessment of one's practice. Our study results indicate that athletic trainers in a postprofessional degree program had mixed emotions when they were interviewed 60 days after their first SP encounter. Once the participants returned to their clinical practice, they were all able to communicate different ways in which the SP encounter had affected their day-to-day practice. The learners voiced a level of comfort with attempting to integrate their newly learned skills from their first semester of their postprofessional degree program during the SP encounter and then with translating those same skills into their clinical practice. Some adult learners voiced a feeling of nervousness or anxiety before being able to complete the SP encounter. Some of the skills learned were not specifically applicable to the patient population at the clinical site of the adult learner. These skills varied from improving the patient-centered care approach to incorporating integrative healthcare techniques that aligned with the course objectives.

#### Limitations of Novice SP Experience

Our participants described characteristics of a diagnosis mindset to come to an accurate classification of the current signs and symptoms, the inability to suspend reality as it related to being watched or graded, and the nerves and anxiety associated with assessment. This domain has been identified in previous research<sup>19</sup> related to SP encounters in athletic training, in which the collective influence of multiple SP encounters improved the learners' confidence.

Diagnosis mindset is operationally defined as a focus directed toward accurately identifying the condition of the patient, rather than a focus on the aspects of communication and interpersonal skills, data gathering, and patient education. While accurate diagnosis from a clinical evaluation is helpful, advanced clinical practice is not directed at preparing entrylevel athletic trainers, much like professional degree programs. The focus of the SP encounter is providing novice learners with a controlled opportunity to critically think through data gathering of the patient's history, long-term goals, and expectations for the appointment. These principles directly align with the tenants of patient-centered care that were introduced as part of the coursework in the degree program and in the grading criteria. The diagnosis mindset limits the ability for patient-centered care to be achieved, as the practitioner's attention is placed on identifying the condition rather than on listening to the wants and needs of the patient. When conducting the needs assessment for implementing these patient cases, the faculty considered the diagnosis mindset insofar as the cases were complicated and rare among traditional athletic patient populations. The cases were intentionally difficult, with the goal that the learners would move away from trying to solve the diagnosis "puzzle" and toward caring for the patient by showing empathy and empowering the patient to make decisions about his own care. Faculty should consider the learner needs and intended outcomes as they plan SPs. When capturing the core competencies, the diagnosis is of little consequence, but professional learners may need formative and summative assessments that focus on a particular body system. Typical knowledge assessments can focus on identifying key characteristics of a patient presentation, while SPs might focus on the delivery of patient care beyond a specific diagnosis. As a result of the diagnosis mindset finding, the program faculty have chosen to use a patient case with a simple diagnosis to help learners minimize cognitive overload and practice applying the principles of patient-centered care. We suggest that athletic training educators consider similar changes when designing and selecting SP cases.

As a result of the high fidelity of the SP cases, the participants often verbalized their inability to suspend reality. Suspension of reality is critical to the learners' ability to immerse themselves within the simulation despite the fact that the SPs were actors. As was the case with previous research,<sup>24</sup> the inability to suspend disbelief within standardized patients has unfavorable results. To limit this experience, the fidelity, emotional buy-in, fiction contract, psychological safety, and assessment of meaning should be explored.<sup>24</sup> While disbelief reflects the ability of the learner to see the patient as real, the suspension of reality in this study refers to the learners' inability to remove themselves from the educational assessment and learning experience. The process of being watched

through video-recording software in a control room has benefits and pitfalls. The camera system allows the evaluator, in this case the educator, to not be in the room during the SP encounter. In doing so, the camera has a limited view angle, requiring the educator to move the camera navigation system to follow the learner in the encounter. If the educator moved to areas offscreen in the control room, that resulted in a noise that startled some learners and caused them to be unable to suspend reality, as they were reminded that someone was watching them throughout the encounter. In addition, the idea of being assessed as a practicing clinician was a new aspect for many of these individuals. The professional identity and stigma of poor performance as it relates to one's clinical abilities may have caused the learner to react in ways not typical of her day-to-day practice.<sup>25</sup> Standardized patients offered in an unfamiliar facility continue to pose a challenge to environmental fidelity. Although there are benefits of video recording and simulation center support, faculty might consider delivering SP cases in a more familiar environment. Because of this finding, we recommend that athletic training educators alter the dynamic of experience, such that the learner is roomed first, and the patient comes to him to mimic the more typical patient/provider interaction in a traditional athletic training facility. In other SP encounters, we have attempted visual imagery using a prebriefing video to introduce the patient and the setting before the experience. We have also utilized a traditional athletic training facility using the learner's phone or tablet to video record the experience. When considering the emergence of new, nontraditional settings, it is difficult to provide SP experiences that are authentic to every work environment; however, attempts to help the learner understand the resources and healthcare delivery system of the environment before the SP may help learners suspend reality.

Previous research<sup>26,27</sup> in nursing related to SP encounters identified that learners are extremely anxious immediately before an SP encounter. Our analysis revealed similar feelings of nerves and anxiety during the first SP encounter. Nerves and anxiety are commonly associated with cognitive load and stress.<sup>28</sup> Cognitive load theory recognizes that working memory has limited capacity and duration thresholds for handling new information.<sup>29</sup> Both increased invigoration (filled with energy) and tranquility (quietness) during simulation are associated with increased cognitive load.<sup>30</sup> When the capacity or duration of an individual's working memory is exceeded, the extent of his learning is impaired.<sup>31</sup> While cognitive load was not a measure in our study, an increase in cognitive load with some of the participants during the highstakes assessment may have evoked the nervous feeling when approaching the situation due to unfamiliarity. We suggest that educators consider the use of multiple SP encounters throughout the curriculum, through which a learner's ability can be measured overtime rather than during a single encounter. Many of the learners were able to gain valuable emotional support from their first SP encounter and began planning for the next SP encounter in the coming semesters. Nevertheless, there has to be the initial SP encounter. We suggest that educators consider the utility of educating on SP encounters before asking a student to experience an evaluative SP encounter in order to expose a learner to the environment. Although the program includes a virtual practical 6 weeks before the SP experience, during which the learner is provided with substantial feedback, learners have indicated that the

experience is simply foreign to them. Because of this finding, the program faculty have included video recordings of previous SP experiences, mindfulness meditation, and visual imagery to minimize the stress of the first SP experience. We have also tried to create an environment in which learners truly understand that this first SP is a baseline assessment and that it represents a safe place to fail (especially integrating new concepts). Faculty should create an environment that helps learners embrace a growth mindset regarding a series of formative SP experiences.

## **Practice Transformation**

Our participants described their abilities and challenges in transforming their clinical practice after the SP encounter. The introduction of practice transformation began during the SP encounter, during which the learner applied the course objectives for the patient case, specifically patient-centered care. Additionally, some of the participants noted a challenge in transferring learned skills to other situations as a result of the patient population, case description, and the fact that the setting for the encounter varied from that associated with their day-today practice. Finally, the participants described methods they had used over the previous 2 months to change their patient interactions because of the learning experience, including history-taking practice and debriefing sessions with colleagues.

Adult learners, in this case individuals enrolled in a postprofessional education program, must be able to critically reflect and engage in discourse about the learning objectives. In order for this to be a successful transformative learning opportunity, the learner must be mature enough to engage in such activities.<sup>32</sup> Learners were given the opportunity to learn in different ways online over the course of a semester before their first SP encounters. These skills varied between integrative health techniques and patient-centered care. The SP was an additional opportunity for the learners to practice their newly learned or refined clinical skills in a controlled environment. The participants described an increased feeling of comfort in attempting these newly learned skills where they knew they were going to gain constructive feedback from the professors directly associated with the course.

When reflecting 60 days after the SP encounter, many of the participants were unable to transfer skills to other situations because they could not relate characteristics of the case itself. They need to be able to generalize the skills, ideas, and behaviors learned in the SP encounter. This ability to generalize and translate skills, ideas, and behaviors may be gained through progression of the postprofessional education experience. This progression will include different SP cases with varying course objectives. Contrary to the feelings some participants expressed about not being able to transfer skills from the SP, some were able to make meaningful changes to their clinical practice after the SP. Although the novice SP adult learners were in some ways unable to make changes to their clinical practice, they reported meaningful changes made during the interviews. This increases the importance of an initial or baseline SP encounter in order to build confidence and ability to translate skills once returned to clinical practice. The diamond-debrief techniques include asking the learners what they will apply in their practice as a result of the SP encounter. Ensuring there is focused time for this part of the debriefing session and scheduling time for learners to create

goals (specific to the learning outcomes) at the end of the session may assist learners to integrate these behaviors into clinical practice. Furthermore, if truly formative and integrated throughout the curriculum, subsequent coursework that asks the learners to draw from those previous experiences might also assist in this process.

## **Promoting Self-Reflection**

Finally, the athletic trainers enrolled in the postprofessional degree program were self-reflective during the interview, denoting aspects of vulnerability and peer-to-peer learning that influenced their perceptions of the SP encounter and application in clinical practice. Learners are able to critically self-reflect and take the feedback gained from those that observed their first SP encounter to improve their clinical skills.<sup>33</sup> The debriefing session that occurred after the SP encounter was a group-style encounter, in which learners who completed the SP were able to come together and exchange feelings and ideas. Peer-to-peer learning is an act of gaining knowledge or skills through educational experiences among learners at the same academic level.<sup>34</sup> This form of peer-topeer learning was powerful, as the participants had a vast array of experience in clinical practice, yet were all experiencing their first SP encounters.

Learners who reported being more vulnerable were able to be more self-reflective and gain valuable insight for future simulated learning experiences. Additionally, some learners noted that it was difficult to let their guard down and be completely vulnerable because of the lack of confidence in their performance in the SP encounter. In addition to this educational experience being completely new and nerveracking for some, it was the first opportunity that these learners had to meet each other. This idea of newness decreases the comfortability of the learners and decreases their willingness to be vulnerable.<sup>28</sup> Vulnerability is an invaluable tool that adult learners must master in order to have a positive educational experience.

## Limitations

This study suffered limitations of external validity, as it was performed in a purposive sample of learners from a single athletic training program. As such, the lived experiences may not be transferable to learners in other postprofessional athletic training degree programs that incorporate high-stakes SP encounters. Although several efforts were made to minimize the anxiety and fear behind an initial SP encounter, learners were unable to envision and anticipate what to expect. Future research should consider a comparison of low or no-stakes SP encounters to determine the impact on cognitive load and perceptions of fear and anxiety.

Future research should explore SP encounters throughout continuing education and professional development programs in athletic training, such as residency, fellowships, and postprofessional clinical doctorate programs. One objective of the study was to see how participants integrated the SP encounter and debriefing session into their clinical practice after their face-to-face meeting. The period to complete interviews was 60 days after the SP encounter, which may not have provided the participants an adequate amount of time and enough subsequent patient encounters to apply the skills and experiences. In addition, the use of SP encounters in continuing education should also be explored as a mechanism to demonstrate competence postcertification.

## RECOMMENDATIONS

Based on our findings and literature related to SP encounters, we recommend the following:

- 1. Postprofessional educators should attempt to reduce stress, anxiety, and nervousness related to SP encounters through pre-briefing, low-stakes SP practice situations, and debriefing sessions structured to encourage clinical development.
- 2. Postprofessional learners must be vulnerable to feedback related to clinical decision making during SP encounters throughout their education. This will allow the learners to make necessary changes that lead them to becoming an advanced practice clinician.
- 3. Educators should consider selecting SP cases that align with the practice setting of the postprofessional learner to promote the transferability of skills after the SP encounter or emphasize the principles of patient-centered care across patient populations to promote the transferability of skills after the SP encounter.
- 4. Postprofessional educators should consider the incorporation of SP encounters throughout their curricula as a means by which to promote self-reflection throughout the program.

## CONCLUSIONS

Similar to other healthcare education, athletic trainers enrolled in a postprofessional education programs are exposed to a vast amount of new information and skill development during a single semester. Although some participants reported negative feelings associated with the learning experience, we believe these are due to the novice experience. Overall, SPs were found to be a useful learning tool for athletic trainers in a postprofessional athletic training degree program. Students were able to promote self-reflection, translate newly learned skills to their clinical practice, and feel more confidence in preparation for their next SP encounter. Several SP encounters over the course of the learner's postprofessional education may be more beneficial than one encompassing encounter, as they will allow more opportunities for learners to develop themselves as clinicians and decision makers while managing the nerves and anxiety that surround the encounter.

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