

**Do Standardized Patients Improve Professional Athletic Training Students' Confidence
and Clinical Skill Set: A Critically Appraised Topic**

*Audrey Meche MAT, ATC
Tulsa Public Schools*

*Ashlyn Bordelon MAT, ATC
University of Texas San Antonio*

*Jennifer L. Volberding PhD, ATC, NREMT
Oklahoma State University Center for Health Sciences*

Abstract:

Clinical Scenario: Athletic training students' (ATS) professional preparation includes both didactic and clinical education. Standardized patients (SPs) may also contribute to hands-on opportunities when there is limited exposure in the classroom or clinical setting. **Clinical Question:** Do Standardized Patients Improve Professional ATS' Confidence and Clinical Skill Set? **Summary of Key Findings:** A literature search was conducted on SPs and how they affect ATS' confidence and clinical skill set. Three studies discussing the use of SPs in athletic training programs were included. Two studies demonstrated improved interprofessional skills and communication. A third study demonstrated increased confidence in clinical skills. **Clinical Bottom Line:** The evidence suggests that SP encounters improve ATS' clinical skills and confidence. SPs allow students to gain exposure to certain skills or situations they may not have been exposed to during clinical education. **Strength of Recommendation:** Based on the JBI Checklist for Qualitative Research all three articles should be included in this study. **Keywords:** clinical education, healthcare education, simulation

Clinical Scenario

Throughout an Athletic training students' (ATS) professional preparation, students are required to have multiple opportunities for hands-on learning in both the classroom as well as different clinical settings.¹ Traditionally, clinical skills are instructed and practiced throughout the didactic portion with more practice and application occurring throughout clinical rotations, with the goal of as many hands-on opportunities in a variety of clinical settings. However, exposure to the vast diversity of pathologies and conditions cannot be guaranteed in the clinical setting. Thus, educational programs have sought a variety of methods to provide additional opportunities for students to practice the skills and knowledge gained throughout the curriculum.

Standardized patients (SPs) can be a great opportunity for an ATS to apply hands-on skills. Standardized patients involve a trained actor to portray an injury or illness including the signs and symptoms.² This provides the student the exposure to a clinical situation which allows the student to apply their clinical skill set on certain scenarios they may not be proficient in.² SPs have been used in many different healthcare programs, including medical schools. Recent studies have shown that SPs can be useful to identify students' knowledge gaps.³ SPs also assist program directors and professors in identifying where they may need to spend more time on a topic or skill to help better the student's knowledge.³ Frye et al.,³ found that with the help of SPs, programs could reassess course content by moving certain skills and knowledge earlier into the course to help create better foundational knowledge. Other studies including SPs and medical students demonstrated an increase in confidence in certain skills.⁴ Rutledge, et al.,⁴ found that medical students learned best when using just SPs when performing female genitourinary exams. Within nursing, the use of SPs in advanced nursing practice students increased communication and interpersonal skills as well as increased learning satisfaction.⁵ In ATs, SP exposure increased confidence, interpersonal skills, and clinical skills when performing evaluations on SPs.⁵⁻⁷ SPs continue to be one of the many things that help healthcare programs increase skills and confidence however, there is limited literature on graduate-level AT students.⁸

Focused Clinical Question

Do Standardized Patients Improve Professional Athletic Training Students' Confidence and Clinical Skill Set?

Search Strategy

Terms used to guide the search strategy

- Athletic trainers AND standardized patients
- Athletic training AND standardized patients
- MAT students AND standardized patients
- MAT programs AND standardized patients AND confidence
- MAT programs AND standardized patients AND athletic training
- Athletic training students AND standardized patients NOT post professional

A computerized search of Google Scholar, EBSCOHost, and SPORTDiscus was performed between September and November 2023.

Patient Group: *Masters' or Graduate Level Athletic Training Students*

Intervention: *Standardized Patient Encounters*

Comparison: *None*

Outcome: *AT Students' Confidence & Clinical Skill Set*

Inclusion Criteria

- Studies must be published within the last 10 years (2013-2023).
- Studies must include AT students at the graduate level.
- Studies must include standardized patients.
- Studies must include simulations using standardized patients.

Exclusion Criteria

- Studies that did not utilize graduate-level AT students
- Studies that did not utilize standardized patients
- Studies that included post-professional AT students (DAT)
- Studies that include post-graduate ATs
- Studies that utilized simulations on classmates or mannequins.

Evidence of Quality Assessment

The literature used in this critically appraised topic was measured using the Checklist for Qualitative Research by Joanna Briggs Institute (JBI).⁹ Each article was assessed using the checklist to identify congruency among philosophical perspective, methodology, data collection, results, data analysis, etc. The JBI assessed evidence looking at the correlation of master's level AT students and SP encounters on their confidence and clinical skill set.⁹

Summary of Search

Results of the Search

Google Scholar, EBSCOHost, and SPORTDiscus were searched for studies that investigated the use of SPs and ATS confidence and skill.

- The literature search returned 158 studies through EBSCOHost and SPORTDiscus.
- Google Scholar with refined results returned 17,6000 studies
- Three studies met the inclusion and exclusion criteria and were selected for analysis

Key Findings

Table 1 summarizes the studies included in this critically appraised topic as they have been evaluated as the best evidence. Vaughn et al.,⁵ found that the use of SP encounters with AT and nursing students was beneficial in students' interprofessional and communication skills. Students felt that working with other health professions enhanced their education and had a positive effect on their future abilities working with other healthcare professions. Winkelmann and Eberman⁶ demonstrated improved student confidence with the use of SPs in telehealth encounters. A final study demonstrated that students expressed positive feedback mentioning that the SPs are realistic and worthwhile improved evaluation skills and found improvement in future evaluations.⁷

Table 1: Summary of Findings

Study Authors	Winkleman & Eberman. ⁶	Gardiner et. al. ⁷	Vaughn et. al. ⁵
Study Title	The Confidence and Abilities to Assess a Simulated Patient Using Telemedicine.	Students Perceptions of Standardized Patient Use in Athletic Training Education.	An Innovative Interprofessional Education Simulation for Athletic Training and Prelicensure Nursing Students: Development, Implementation, & Student Perspectives.
Participants	55 Second Year Master of Athletic Training Students with a mean age of 25± 3. Gender was not specified.	9 Athletic Training Students (5 Professional Baccalaureate & 4 Profession Postbaccalaureate). Participants (8 female, 1 male) had a mean age of 23.89 years old	20 Graduate-Level AT Students and 12 Prelicensure Nursing Students. AT students consisted of 11 first year and 9 second year students. Nursing students ranged from second semester to fifth semester. First year AT students were assigned to cohort 1 and the second year AT student were assigned to cohort 2. Nursing students were assigned to either cohort 1 or 2 depending on their availability. Cohort 1 was made up of 62% females and 38% males. Cohort 2 was made up of 58% females and 42% males.
Inclusion/Exclusion criteria	Inclusion: MAT students from accredited AT programs. Exclusion: None	Inclusion: participants must have at least undergone 1 SP encounter. Exclusion: None	Inclusion: AT students & Nursing students. Exclusion: None.
Outcome measures	A confidence questionnaire facilitated assessing the confidence of athletic training	A semi-structured interview protocol included 20 open-ended questions. Seven demographic questions, 13 of the questions related to	Students completed the Student Perceptions of Interprofessional Clinical Education Revised (SPICE-R) Survey along with open-ended questions at the end of the encounter. The SPICE-R Survey

	students when using Telemedicine to accurately diagnose their SP encounter.	perceptions of the student's SP experience. The questionnaire determined in what capacity students are interacting with SPs within their curriculum and to explore student perceptions of SPs.	assessed the attitudes of the students toward interprofessional healthcare teams, their roles, collaboration, and the team care approach. The open-ended questions detailed feedback on students' perspectives of the simulation and prior experiences.
Results	87.3% of participants correctly diagnosed the SP. Confidence score improved from 68.41 +/- 8.13 to 69.36 +/- 9.44.	Based on the questionnaire two themes emerged: encounter characteristics and perceived value. Characteristics were environmental/setup, format, evaluation/grading, & feedback. Perceived value was subdivided into purpose skills gained, SP training/authenticity, benefits/challenges, and shortcomings.	The one overarching theme was students perceived the interprofessional experience as positive to discover the value of interprofessional patient care. Subthemes included positive perception, importance of interprofessional communication/collaboration, and learning about one another's roles.
Evidence Quality Score	JBI: 8/10.	JBI: 8/10.	JBI: 8/10.
Support for the answer (Yes/No)	Yes.	Yes.	Yes.

Results of Evidence Quality Assessment

A thorough search was done to try to identify articles regarding the PICO. Through specific inclusion and exclusion criteria, three quality articles came up that helped answer the PICO questions. All articles met the inclusion criteria as well as the exclusion criteria and were graded using the JBI Checklist for Qualitative Research.⁹ The first article involved SP encounters via Telemedicine and scored an 8/10 on the JBI checklist due to the lack of much congruency among methodology in the research question and philosophical perspective.⁶ The second article selected involved student perceptions of SPs scored a 9/10, yet the discussion of beliefs and values was not explained.⁷ The final article selected discussed interprofessional SP encounters and also scored 9/10 with the beliefs and values aspect not being applicable.⁵

Clinical Bottom Line

The evidence suggests that SP encounters improve AT students' clinical skills and confidence. Students in all studies found improvement in evaluation skills and soft skills including confidence, patient education, and professionalism. This allows students to gain exposure to certain skills or situations they may not have been exposed to during clinical education. Overall, SPs improve overall skills and help prepare students to become good clinicians.

Implications for Practice, Education, & Future Research

There are many teaching strategies within the healthcare profession, which is essential as student learning styles vary.¹⁰ Clinical education is one of the better ways to adequately prepare AT students for the transition to practice.¹⁰ While clinical rotations provide a wide variety of opportunities, they may not allow for exposure to everything an ATS may require before sitting for the Board of Certification exam thus, SP encounters can be beneficial in filling in the gaps.¹⁰ SP encounters can provide that realistic environment where students can adequately perform their skills as they provide students the opportunity to perform their skills in situations they were not able to perform or observe while on their clinical rotation.¹⁰

The results of the included studies indicate that students had a positive outlook on SP encounters stating they helped to increase their clinical skill set, confidence, and soft skills such as communication and working with other professions.⁷ Other research has demonstrated that SPs involving other healthcare professionals made the encounter meaningful as they were able to apply their skills and work alongside other professionals to get to their end goal of helping the patient.⁵ Additionally, research shows that the use of SPs via Telemedicine was also beneficial to assisting students not only in developing and improving skills they have learned but also in adding the skill of using Telemedicine that they may have not used before.⁶ Future studies should be conducted on master's level AT students. Many articles during the initial search were out of the 10-year window or if they were 10 years older or less, the only involved undergraduate students. While outside the research window, it should be noted that those articles also showed benefits when using SP encounters.⁸ All studies included had SP encounters but in different forms like via Telemedicine or with the use of interprofessional education however, more research should be done on how one-on-one in-person SP encounters can or cannot benefit graduate AT programs.

Educational programs should implement SP encounters, as it is a beneficial teaching strategy. SP encounters assist with evaluation skills as well as soft skills such as communication and interprofessional skills.⁵⁻⁷ SPs help provide a realistic environment with injuries or illnesses that happen in the real world which allows students to be able to practice and implement the skills they may be lacking. For educational programs the use of SPs may assist in curricular planning, to evaluate where skills are taught and evaluated.³ SP encounters are a meaningful way for students to become better and research has demonstrated the benefits for students and educational programs.

The kill date for this CAT is December 2025, when a re-evaluation of the research should be conducted.

References

1. Commission on Accreditation of Athletic Training Education. 2020 Standards for Accreditation of Professional Athletic Training. Published January 9, 2018. Accessed November 16, 2023. <https://caate.net/Portals/0/Documents/Standards%20and%20Procedures%20for%200Accreditation%20of%20Professional%20Programs.pdf>
2. Hillier M, Williams TL, Chidume T. Standardization of Standardized Patient Training in Medical Simulation. *Stprl*. 2023.
3. Frye JL, Armstrong KJ. Standardized Patient Encounters and Facilitated Debrief Impact Teaching Pedagogy and Programmatic Improvements. *Athl Train Educ J*. 2022;17(2):162-173
4. Rutledge M, Link K, Zapata I, Carter S. Medical Student Confidence when Training for a Female Genitourinary Exam Using Models and Standardized Patients. *J of Obste & Gyn Res*. 2022;48(6):1466-1474
5. Vaughn J, Cunningham R, Schroeder LH, et al. An Innovative Interprofessional Education Simulation for Athletic Training and Prelicensure Nursing Students: Development, Implementation, and Student Perspectives. *Nurs Frum*. Published online October 29, 2022.
6. Winkelmann Z, Eberman LE. The Confidence and Abilities to Assess a Simulated Patient Using Telemedicine. *Athl Train Educ J*. 2020;15(2):132-147.
7. Gardiner AM, Cuchna JW, Walker SE, Clines S, Welch-Bacon CE, Van Lunen B. Student Perceptions of Standardized Patient Use in Athletic Training Education. *Athl Train Educ J*. 2019;14(1):64-72.
8. Armstrong KJ, Jarriel AJ. Standardized Patient Encounters Improved Athletic Training Students' Confidence in Clinical Evaluations. *Athl Train Educ J*. 2015;10(2):113-121.
9. Lockwood C, Munn Z, Porritt K. Qualitative research synthesis: methodological guidance for systematic reviewers utilizing meta-aggregation. *Int J Evid Based Healthc*. 2015;13(3):179–187
10. Edler JR, Eberman LE, Walker S. Clinical Education in Athletic Training. *Athl Train Ed J*. 2017;12(1):46-50.