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Multidisciplinary Simulation in Physical Therapist Assistant Education

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PURPOSE

- Clinical simulation is an effective method of teaching students in a controlled environment.
- Students perform in a realistic setting with built-in controls to practice skills, receive instructor feedback and complete a self-assessment to refine performance.
- Small group instructor-led debriefing is an essential part of the learning process to facilitate reflection on performance.
- Currently, there is a lack of published reports of multidisciplinary simulation in physical therapist assistant (PTA) education using high fidelity simulation mannequins and live standardized patients.
- To evaluate PTA students' communication, critical thinking, confidence and satisfaction following a multidisciplinary simulation with six disciplines using a series of four scenarios of varying complexity.

METHODS

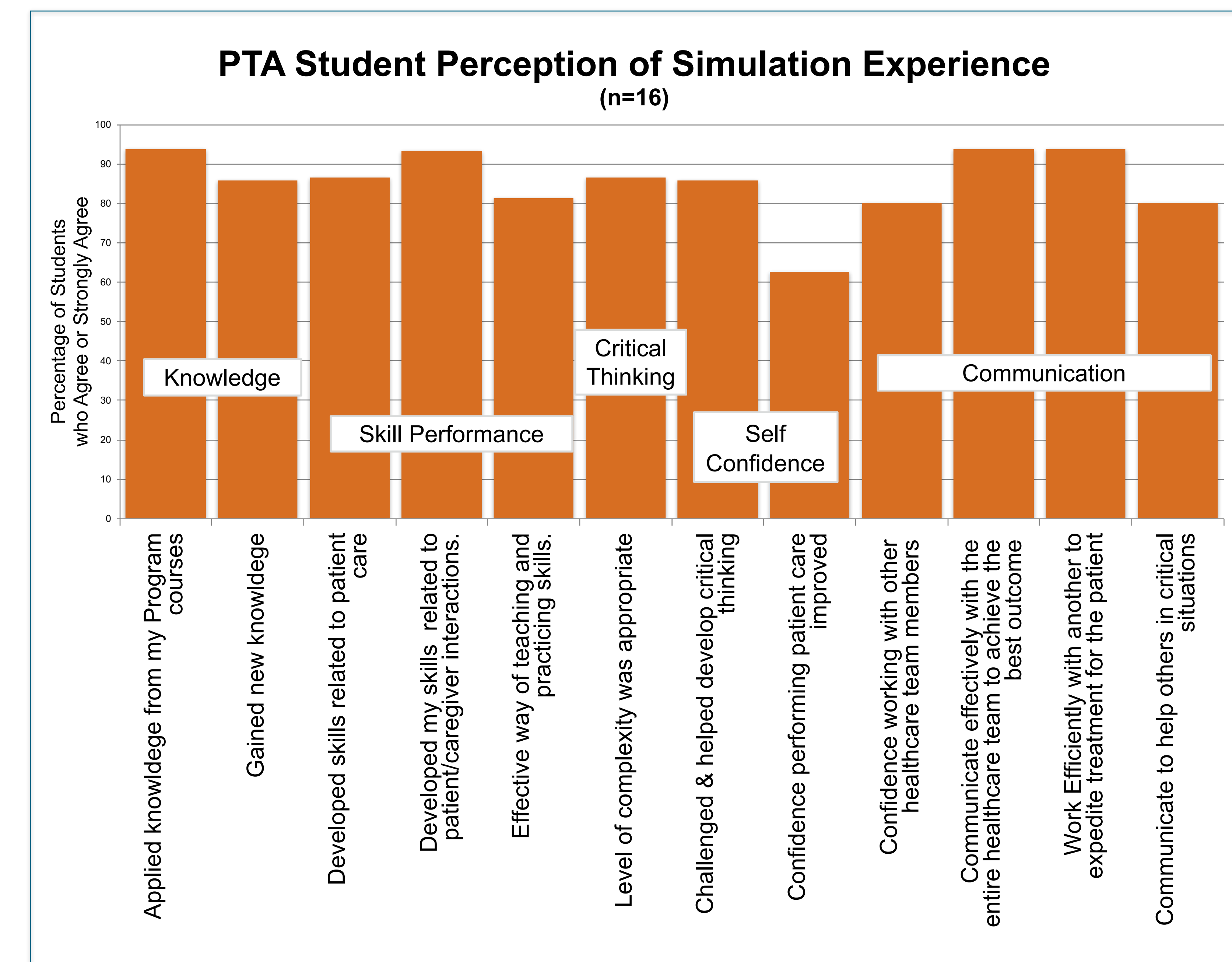
- PTA students completed a series of four different simulations with both live standardized patients and high fidelity simulation mannequins in a three-hour time frame.
- Students completed a mind-map with other disciplines during the simulation.
- Simulations were repeated seven times with different multidisciplinary student groups over a four-day period.
- Scenarios included outpatient and inpatient practice settings with patients across the lifespan and varying levels of complexity.
- Prior to the simulation, PTA students were provided with the physical therapists' plan of care.
- Instructor-led debriefing was completed following the experiences.
- Students completed a survey measuring their level of agreement (ranging from "do not agree" to "strongly agree") of their perception of the simulation experience.¹



Patient descriptions for PTA involvement	Healthcare Team interactions
Patient 1 <ul style="list-style-type: none"> • Outpatient; 54 y.o. female • Develops chest pain and shortness of breath during an outpatient PT appointment. • Required PTA students to call 911 	Physical Therapist, 911 dispatch, Paramedic
Patient 2 <ul style="list-style-type: none"> • Inpatient; 73 y.o. male • Admitted two days ago with increased respiratory distress. Diagnosed with pneumonia. PMH: COPD. Patient required 3L of oxygen at rest and 5L with activity. • Experienced significant decrease in SPO2 during ambulation with PTA students. 	Physical Therapist, Respiratory Therapist, Associate Degree Nurses, Licensed Practical Nurses
Patient 3 <ul style="list-style-type: none"> • Inpatient; 25 y.o. female • Sustained a TBI and pelvic fractures in a MVA. Medically fragile, multiple lines including mechanical ventilation. • PTA students transferred patient to the chair with nursing and respiratory students. 	Physical Therapist, Respiratory Therapist, Associate Degree Nurses, Licensed Practical Nurses
Patient 4 <ul style="list-style-type: none"> • Inpatient; 4½ y.o. female • Admitted from the ED after the mother reports the child fell down the stairs. This history is unconvincing and abuse is suspected. • PTA students completed age appropriate activities and provided education to mother on proper fit and use of the arm sling. 	Physical Therapist, Radiology Technician, Associate Degree Nurses, Licensed Practical Nurses, Social Work

RESULTS

- Six different healthcare disciplines and 121 students (including 16 PTA students) completed the multidisciplinary simulation.
- 100% of PTA students reported the multidisciplinary simulation was a valuable experience.
- Student perception of the experience was positive ranging from 71%- 94% in the areas of knowledge, skill performance, critical thinking, self-confidence, and communication.
- Themes from the instructor-led debriefing included the value of teamwork and learning what other professions do by working together.
- PTA faculty reported the experience was effective not only in meeting the learning objectives but led to their own deeper understanding of other healthcare team members.



Student Comments

"It was interesting finding areas of overlapping knowledge, great using these to communicate more efficiently, and provide better patient care."

"I had to think outside the box in some situations and had to look at what I was doing as a therapist and change what I was doing with the patient's circumstance."

"We had to be able to apply things we have learned throughout the program, and in addition, learned to communicate effectively with other disciplines."



CONCLUSIONS

- The multidisciplinary simulation allowed PTA students to experience real-life patient scenarios in a controlled environment in conjunction with a multidisciplinary team.
- The simulation complimented the PTA-only experiences completed earlier in the curriculum.
- It was a valuable learning activity as it granted students additional practice to refine skills of professionalism, communication and teamwork to provide high quality care essential for clinical education and as future entry-level PTAs.

Reference: 1. Shoemaker MJ, Riemersma L, Perkins. Use of high fidelity simulation to teach physical therapist decision-making skills for the intensive care setting. *Cardiopulmonary Phys Ther J.* 2009;2013-18