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Simulation as an Assessment of Core Critical Skills for First Year Medical Interns

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Introduction

The transition from undergraduate medical education to graduate medical education is one that new interns are often underprepared for. This is evidenced as health care efficiency decreases and patient morbidity and mortality increases during the month of July, the turnover time for first year medical interns.¹ Simulation scenarios offer a novel tool to develop and assess core critical skill areas that are imperative towards maximizing patient safety and patient care. Such as teamwork, consultation, escalation, informed consent, and handoffs. This study evaluates an intern conference to develop and assess these core critical skills using simulation.

Methods

The “Walk the Walk” intern conference was developed to establish a common patient safety culture by training and evaluating intern skills in core critical skill areas. All beginning first year medical interns at Virginia Commonwealth University Medical Center including internal medicine, pediatrics, pathology, psychiatry, anesthesiology, obstetrics & gynecology, general surgery, emergency medicine, orthopedic surgery, otolaryngology, neurological surgery, oral and maxillofacial, and emergency medicine – internal medicine participated in the conference.

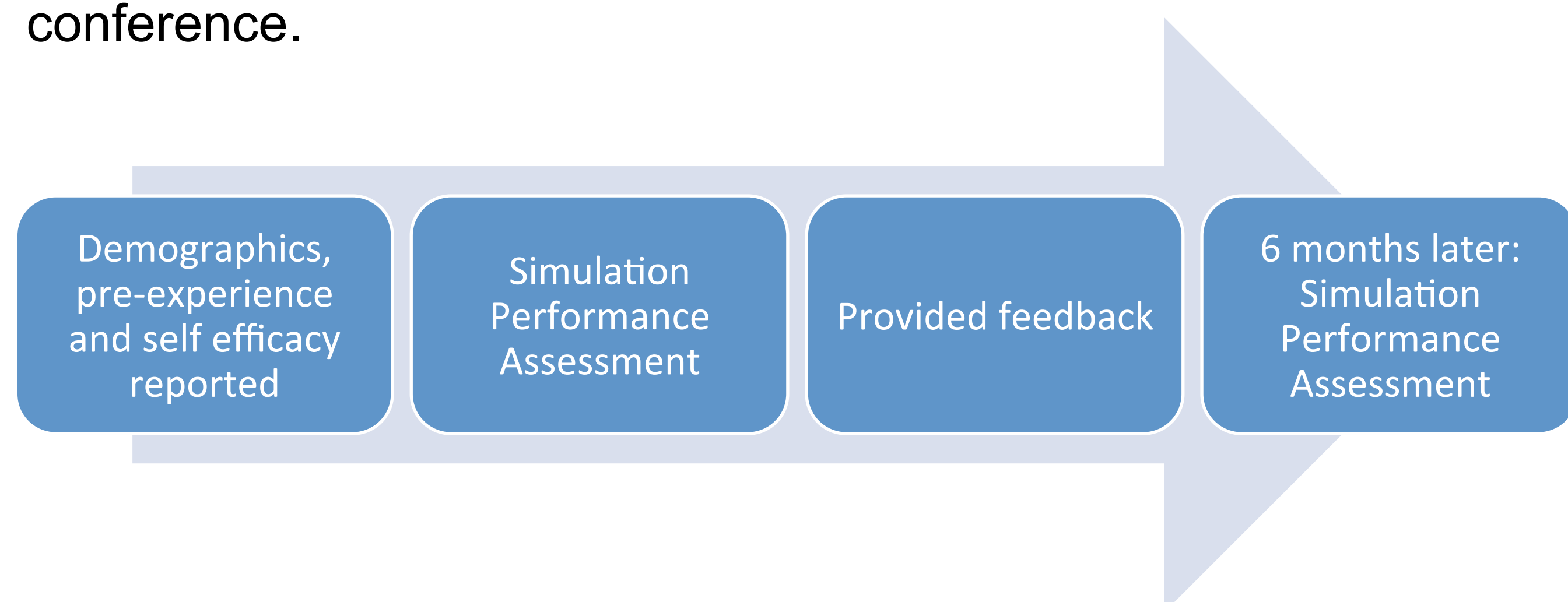


Figure 1. Walk the Walk intern conference setup.

Previous experience with patient safety and teamwork was reported on a scale of 0 to 3, with 3 being very experienced. Pre-conference and post-conference self-efficacy in the areas of interest was recorded on a scale of 0 to 5, with 5 being very confident. Simulation assessments for core critical skills were measured as actions taken during the simulation. These were rated on a scale of 0 to 2, with 0 being not completed and 2 as done completely. Data was analyzed with IBM SPSS Statistics Data Editor and Microsoft Excel.

Results

Data was collected from 133 medical interns participating in the “Walk the Walk” conference.

‘How much experience do you have...?’

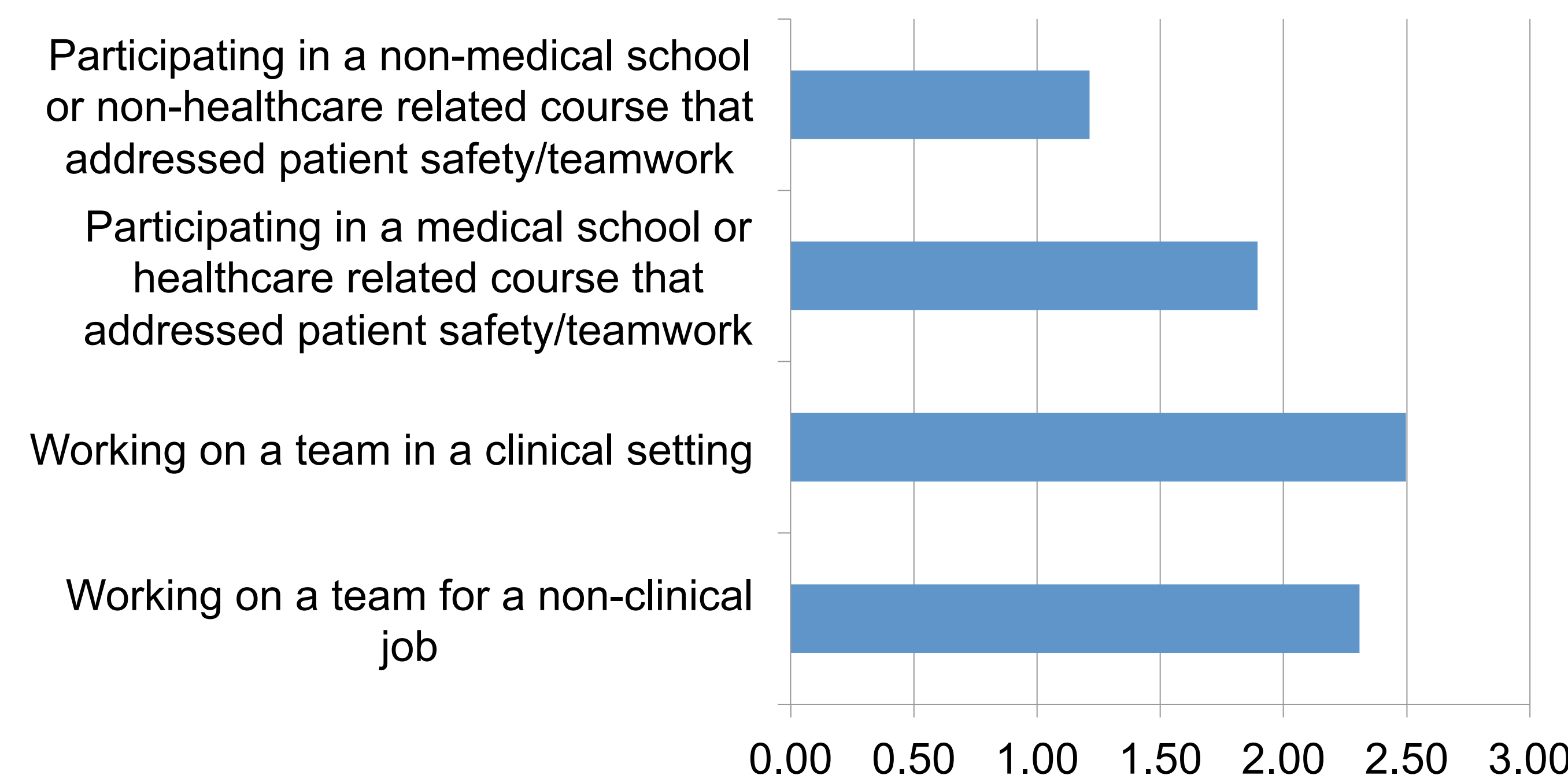


Figure 2. 0 = no experience; 3 = a lot of experience.

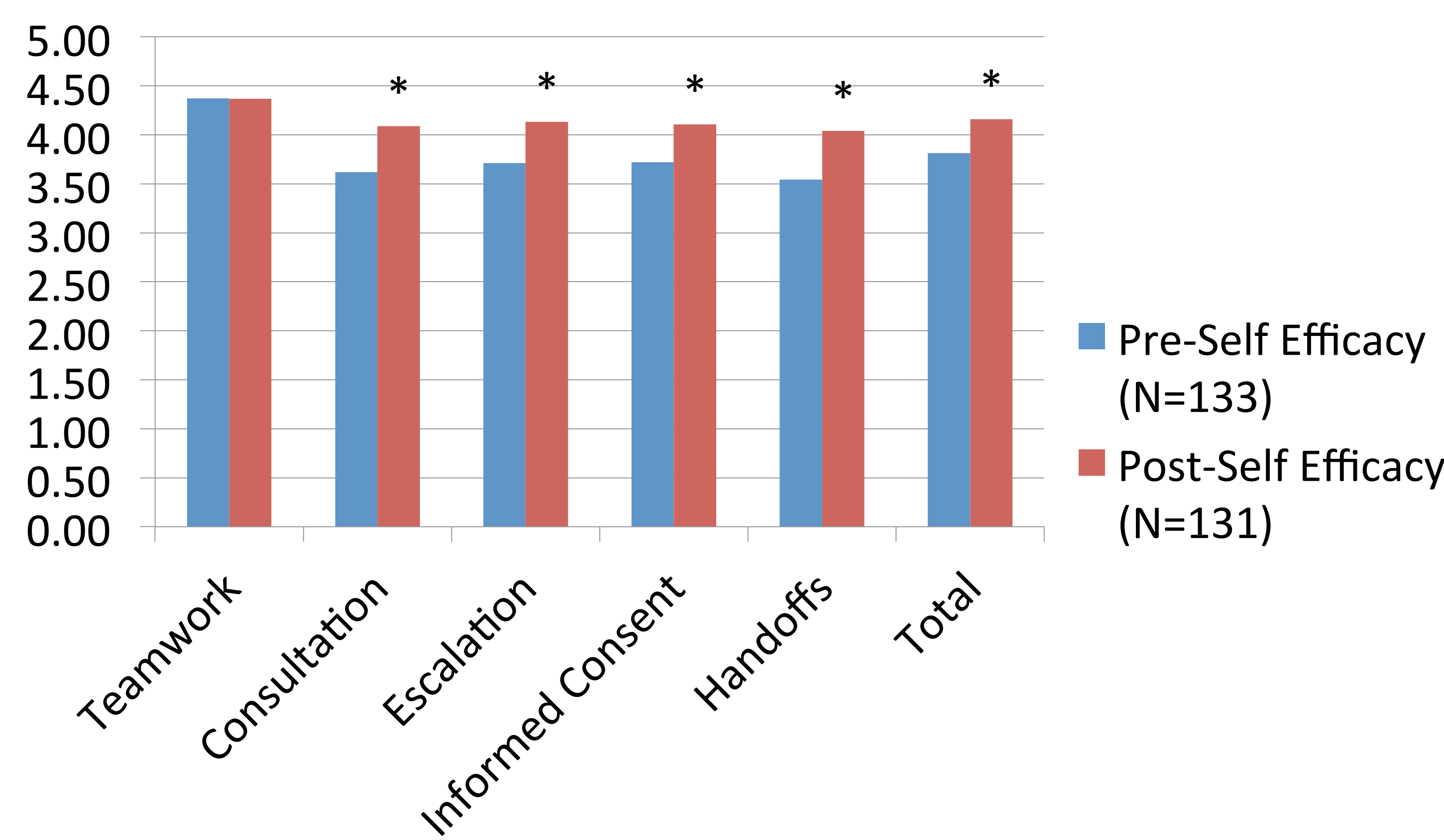


Figure 3. 0 = not at all confident; 4 = very confident. There was a significant increase in self-efficacy in the areas of consultation ($P < .01$), escalation ($P < .05$), informed consent ($P < .01$), handoffs ($P < .05$), and total mean self-efficacy ($P < .05$).

Conclusion

Results suggest that interns have considerable experience working in teams, but not as much experience with formal education to guide them on how to best work as a team. Interns have the least experience with teamwork in non-medical school or non-healthcare related coursework. Self-reported ability in 4 out of the 5 core skill areas support that conference training was effective. In addition, there was a significant increase in self-reported overall performance in the core critical skills post conference. Although there was no significant improvement in teamwork, interns reported feeling very confident in teamwork skills on average. This data supports the use of simulation to develop and assess areas such as teamwork, consultation, escalation, informed consent, and handoffs in first year medical interns.

Future Directions

Inter-relater reliability has been established, therefore future work will evaluate performance in the simulation scenarios, comparing both pre- and post- simulation performance. Simulation performances will be compared between residencies, and compared against pre-experience as well self-reported confidence in abilities.

References

1 Phillips DP, Barker GE. A July spike in fatal medication errors: A possible effect of new medical residents. *J Gen Intern Med.* 2010;25:774–779.

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