

Improvements in objective and subjective ratings of interprofessional competency following simulation training

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Introduction

In the often high-pressure and time-sensitive clinical setting, proficient communication and teamwork between members of interprofessional teams is vital. To ensure best patient outcomes, pre-registration nursing and medical clinicians need to learn to collaborate effectively.

Aims

To explore whether participation in interprofessional simulation training sessions:

1. Improved self-perceptions of interprofessional competency;
2. Enhanced teamwork and communication skills.

Methodology

- Repeated before and after study involving the delivery of three simulation sessions: (April, June, August, 2022)
- Nursing and medical students participated during clinical placements. Sessions were designed to incrementally increase in difficulty and clinical complexity.
- Training scenarios focused on managing cardiac and respiratory deterioration in a general ward setting.
- Study data were: **(1) self-reported competency in collaborative practice** measured by a validated questionnaire, scored between 0 and 5; and **(2) structured ratings of simulation performance** undertaken by three independent raters.

Results

Number of participants

Simulation sessions comprised the following number of participants (see Fig 1.):

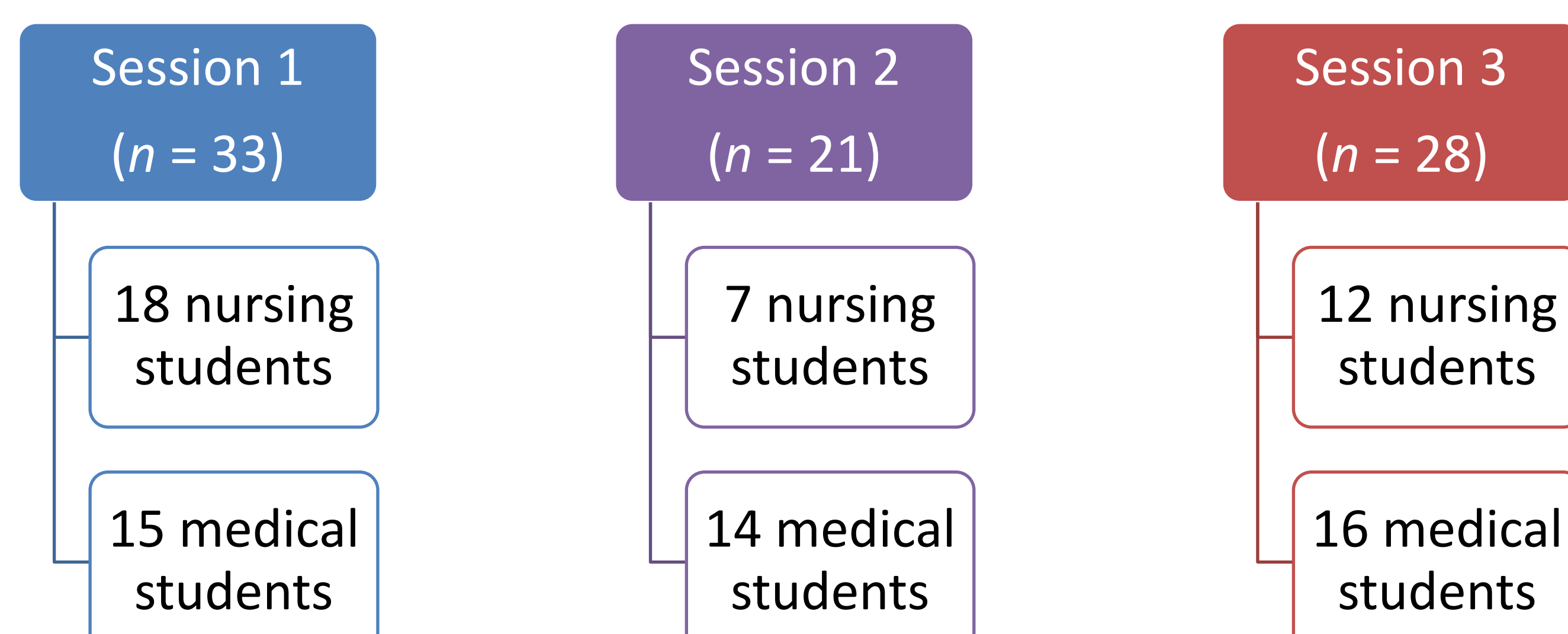


Fig 1. Number of participants in each simulation session

Results (cont.)

Self-reported interprofessional competency

- Participants' self-rated competency significantly improved following each simulation session but decayed between sessions (Table 1).
- Despite this, analyses indicated **significant sustained growth** in pre-test Interprofessional Interaction across the three sessions (Mean_{diff} = 0.15, 95%CI [.004, .30], $p=.044$).

Table 1. Pre- and post-simulation Interprofessional Education Collaborative Self-Assessment (IPEC) domain scores

Session	Pre Mean (SD)	Post Mean (SD)	Mean difference (Post - Pre), 95%CI	Paired samples T test, p-value
Interprofessional Interaction scores				
Session 1	3.6 (0.4)	4.0 (0.5)	0.4 [0.3, 0.6]	< .001
Session 2	3.6 (0.4)	4.2 (0.3)	0.6 [0.4, 0.7]	< .001
Session 3	3.7 (0.4)	4.1 (0.5)	0.4 [0.1, 0.6]	.003
Interprofessional Values scores				
Session 1	4.2 (0.3)	4.5 (0.4)	0.3 [0.2, 0.4]	< .001
Session 2	4.3 (0.4)	4.6 (0.3)	0.2 [0.1, 0.4]	< .001
Session 3	4.2 (0.4)	4.5 (0.5)	0.3 [0.1, 0.5]	.001

Expert ratings of competency

- The ratings of the senior researcher (Rater A) were compared to 1-2 independent raters at each of the three simulation sessions.
- Pooled competency ratings for the three sessions are presented in Fig 2.
- Analyses revealed **significant increases** in observed interprofessional competency by *Rater A* and the *independent raters* following simulation training.

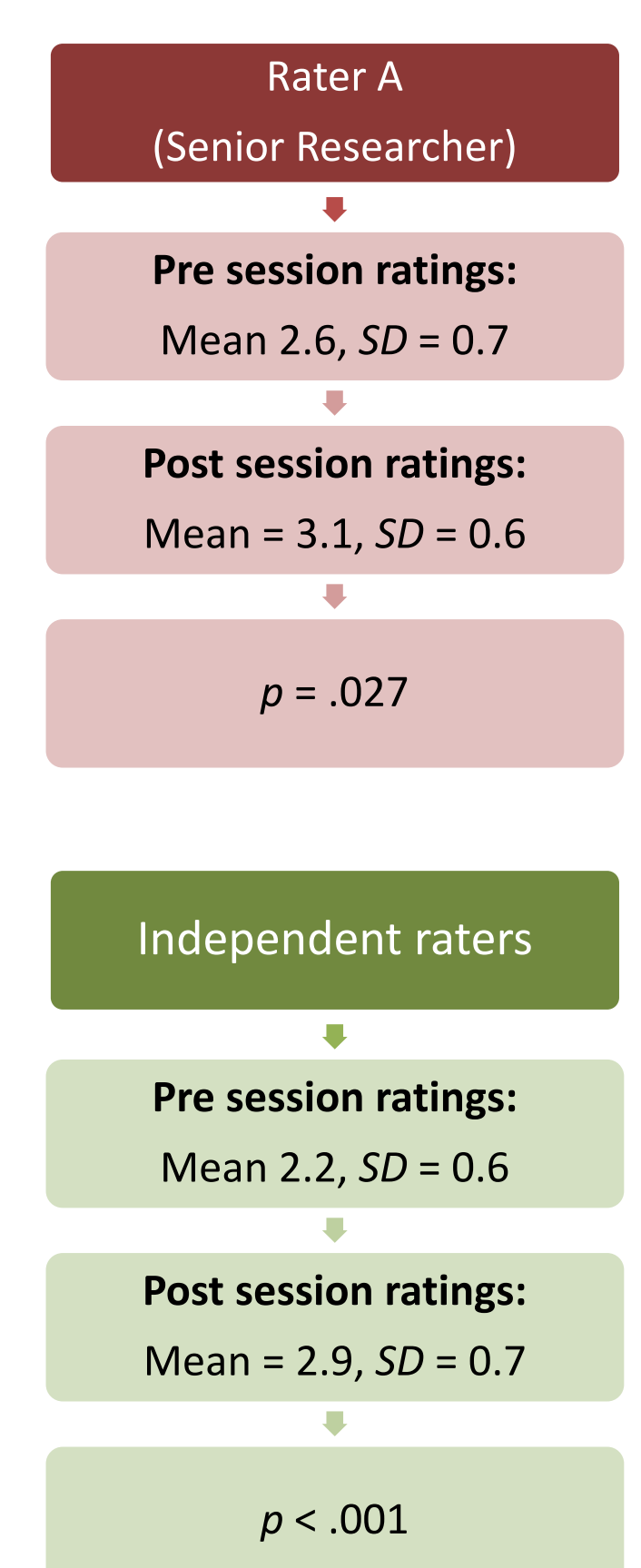


Fig 2. Pooled interprofessional competency ratings of Rater A and the independent raters for the three simulation sessions

Conclusions

The interprofessional simulation program was effective in improving interprofessional competency, as measured by both subjective self-report and objective observational measures. Additional research should be undertaken to gauge the continuing efficacy of this program and to explore ways to further standardise the reliability of observational ratings.