The Effect of Faculty Training and Personality Characteristics on High Stakes Assessment of Simulation Performance

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Conflicts of Interest and Disclosures:

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Session Objectives:

- Describe the need for evaluator training and development of shared mental models for high stakes assessment of student performance in simulation
- Describe an experimental study design that includes a training intervention developed to prepare faculty for performance evaluation
- Discuss results of the study and implications for nursing education programs and future research

Background for Study

High-Stakes Assessment in Simulation

High Stakes Assessment in Simulation

- Simulation is evolving from a teaching/learning strategy used for formative assessment to…..
- A summative and high stakes assessment method
  - NCSBN study (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014)
  - NLN study (Kardong-Edgren, Oermann, Rizzolo, & Odom-Maryon, 2017; Rizzolo, Kardong-Edgren, Oermann, Jeffries, 2015)
- How do we ensure validity and reliability in high stakes assessment in simulation?
- How do we ensure fair and equitable assessment?

High stakes assessment:

“an evaluation process associated with a simulation activity that has a major academic, educational, or employment consequence . . .” (Meakim et al., 2013, p. S7).

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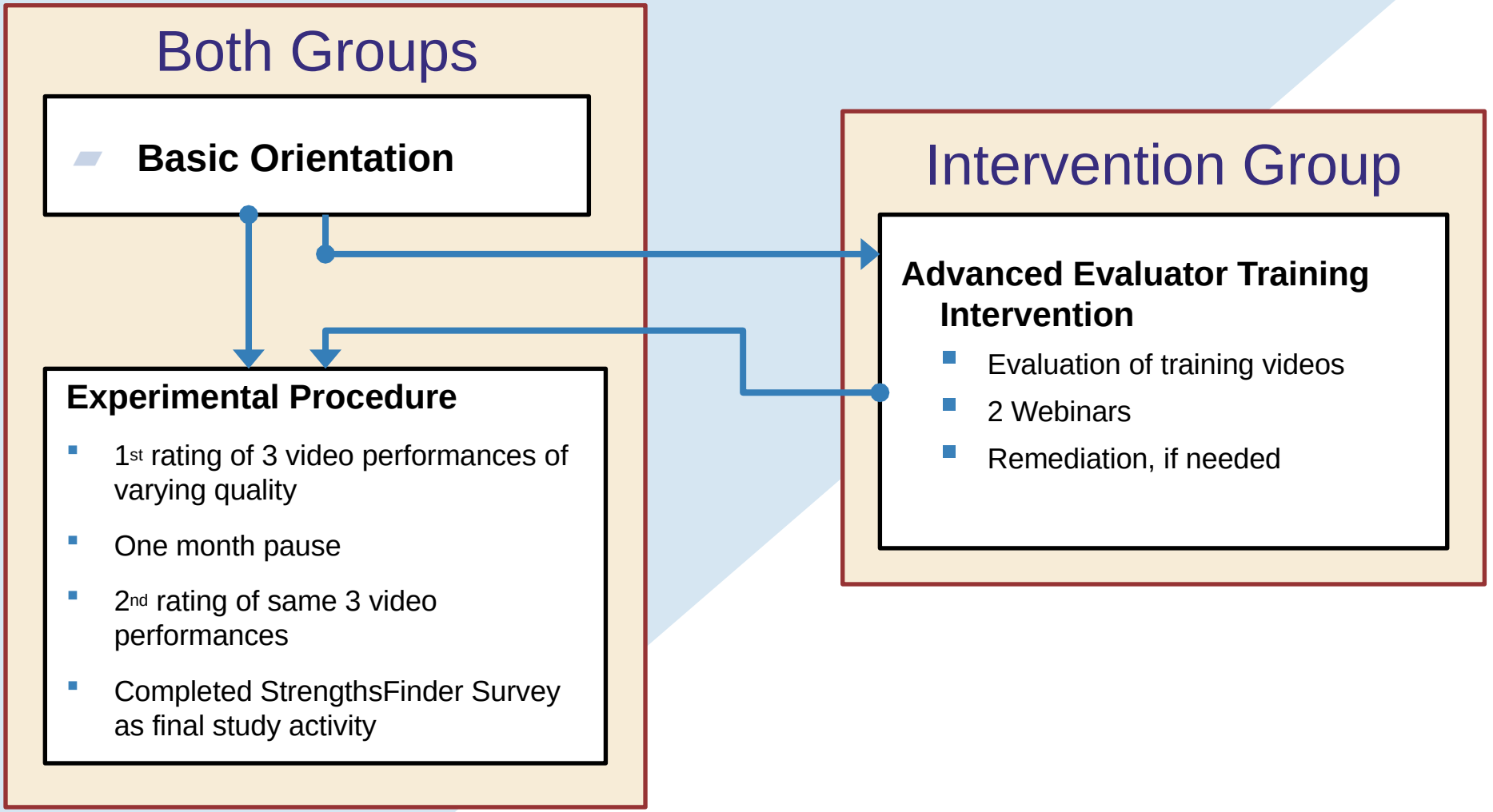
Research Study Design

Experimental, Randomized, Controlled Study

- What is the effect of (a) a training intervention and (b) faculty personality characteristics on faculty ability to achieve intra/inter-rater reliability when evaluating student performance during simulation?
- Multi-methods: IRR, qualitative survey
- Conceptual Framework
- Nationwide recruitment of 102 pre-licensure RN faculty
- Control and Intervention Groups


Both Groups
Basic Orientation
Experimental Procedure
1st rating of 3 video performances of varying quality
One month pause
2nd rating of same 3 video performances
Completed StrengthsFinder Survey as final study activity
Intervention Group
Advanced Evaluator Training Intervention
Evaluation of training videos
2 Webinars
Remediation, if needed

Data Collection Instruments

- Demographic Survey
- Creighton Competency Evaluation Instrument (CCEI)
- 10 video-recorded student performance videos
- Clifton StrengthsFinder Inventory
- StrengthsFinder Survey

Findings/Results

Participants

- 75 of the 102 participants completed the study
- Retained equal numbers in Control (37) and Intervention (38) groups
- No statistically significant differences between the groups in demographic characteristics such as age, years of teaching, years of teaching with simulation

Inter-rater Reliability: Total Score

Video	Intervention Group		Control Group	
	ICC	Kappa	ICC	Kappa
1	.869	.769	.794	.527
4	.969	.541	.738	.311
6	.934	.411	.768	.294
11	.922	.461	.771	.363
19	.962	.658	.861	.584
28	.952	.705	.567	.615

ICC
0.75-1.0: excellent
0.60-0.74: good
0.40-0.59: fair
<0.40: poor

Kappa
>0.80: high
0.60-0.79: substantial
0.40-0.59: moderate
<0.40: poor to fair

Intra-rater Reliability: Total Score

Video	Intervention Group		Control Group	
	ICC	Kappa	ICC	Kappa
1	.811	.951	.912	.527
4	.825	.885	.844	.541
6	.858	.723	.770	.503
11	.896	.821	.879	.522
19	.957	.862	.953	.829
28	.926	.891	.576	.616

ICC
0.75-1.0: excellent
0.60-0.74: good
0.40-0.59: fair
<0.40: poor

Kappa
>0.80: high
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0.40-0.59: moderate
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Personality characteristics

- Most participants thought the StrengthsFinder results were accurate
- Participants explained how knowing their strengths could help with the evaluation process
  - “As I learn more about myself, I feel I can provide more consistent evaluation”
- Participants reflected on how their strengths may make it more difficult to evaluate students fairly
  - Too strict, too lenient, don’t like conflict, difficulty being consistent

Study Conclusions

Conclusions

- A structured training method that included a model evaluation and practice evaluations contributed to higher inter and intra rater reliability.
- Providing participants with a video recorded “model” evaluation was a useful method to initiate a SMM in a diverse group of evaluators.
- Live discussions allowed participants to express their values and beliefs about clinical competence in attempts to reach consensus.
- Participants who were initially resistant agreed, through continued discussion, to adopt a reasonable, if not perfect, SMM.
- The accuracy of video performance evaluation was highly dependent on the quality of audio and video capture and the

Study Implications

Education and Research

Implications for Education

- Communication and sharing of individual beliefs and values about competency must occur among team members.
- An intentional process must be planned that allows time for consensus to occur.
- Evaluators must be trained in the use of a valid evaluation tool.
- The process should include practice evaluations using live or high-quality video recorded performances of differing competency levels.

Implications for Research

- Additional studies are needed to test and confirm the effects of training methods on reliability.
- Funding sources are needed to support large scale experimental studies.
- The effect of faculty personality characteristics on student performance evaluation requires more study.
- Studies are needed to examine evaluator decision-making using checklists versus global rating scores.

Questions?

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