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

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Evaluating clinical competencies of nursing students is essential as faculty prepare them for the healthcare practice environment in which quality, safety, and patient outcomes are of highest priority. As greater emphasis is placed on high stakes assessment of clinical performance in nursing education, the training of faculty evaluators to assure good intra and inter-rater reliability of simulation performance is paramount. Assessment methods must be consistent with the NLN Fair Testing Guidelines for Nursing Education (NLN, 2012). Central to these guidelines is the definition of “fair”; that “all test-takers are given comparable opportunities to demonstrate what they know and are able to do in the learning area being tested” (p.3). Well-designed research studies that investigate all the factors needed for development and implementation of fair and reliable high stakes testing are necessary.

This presentation describes the results of a nationwide, experimental study conducted to test the effectiveness of a training intervention in producing intra and inter-rater reliability among nursing faculty evaluating student performance in simulation. The study is an extension of the NLN Project to Explore the Use of Simulation for High Stakes (Rizzolo, Kardong-Edgren, Oermann, & Jeffries, 2015) which evaluated the process and feasibility of using manikin-based high fidelity simulation for high stakes assessment in pre-licensure RN programs. The NLN project resulted in more questions than answers about simulation design, implementation, and performance assessment. Two questions that emerged from the NLN project were: (a) are there specific qualities associated with faculty who are comfortable and consistent in the evaluator role? and (b) what are the best methods to train raters? (Rizzolo, 2014).

These questions guided the research question for this experimental 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 high-stakes simulation? With NLN approval, the student performance videos and the Creighton Competency Evaluation Instrument (CCEI) used in the NLN project were used in the experimental study. The CCEI is a performance evaluation instrument that measures 23 skills related to assessment, communication, clinical judgment, and patient safety. The instrument was found to be a valid and reliable instrument to assess clinical competency in pre-licensure students in simulation in preparation for the National Council of State Boards of Nursing (NCSBN) National Simulation Study (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014). The CCEI tool used in this study specifies minimum performance behaviors that are unique to the simulation scenario enacted in the student performance videos. This tool also asked participants to specify if they thought the students performing the simulation were competent. Participants in the study evaluated student performances expected to demonstrate end-of-program level of competence.

Consistent with the NLN project, high-stakes assessment was defined as “an evaluation process associated with a simulation activity that has a major academic, educational, or employment consequence . . .” (Meakim et al., 2013, p. S7). Clinical competence was defined as the ability to “observe and gather information, recognize deviations from expected patterns, prioritize data, make sense of data, maintain a professional response demeanor, provide clear communication, execute effective interventions, perform nursing skills correctly, evaluate nursing interventions, and self-reflect for

performance improvement within a culture of safety” (Hayden, Jeffries, Kardong-Edgren & Spector, 2011).

A total of 102 faculty were recruited from nursing programs across the country. Inclusion criteria included full-time teaching status in an accredited associate degree or baccalaureate degree nursing program, experience with simulation, experience with clinical competency evaluation in clinical settings or simulation settings, education in evaluation and measurement, and proficiency with web-based technologies. Participants consented to complete study activities requiring up to 20 hours over a 2 ½ month period. Participants were randomized into control and intervention groups.

The study sought to build, through a training intervention, a shared mental model of end-of-program competence in a video recorded simulation performance among participants that had no prior relationship or shared curriculum, but that shared, in theory, a perspective on the clinical knowledge, skills, and abilities needed by students at the end of a pre-licensure RN academic program. The research team designed a basic orientation and an advanced evaluator training module that incorporated most elements of the training methodology established by Adamson and Kardong-Edgren (2012) to evaluate inter-rater reliability for the CCEI and used in the NCSBN’s national simulation study (Hayden et al., 2014). The intervention group received the basic orientation and the advanced evaluator training, while control group participants received only the basic orientation. After receiving the basic orientation or the training intervention, all participants proceeded to the experimental procedure in which student performance videos were evaluated using the CCEI. All participants completed the Clifton StrengthsFinder Inventory, a web-based assessment of normal personality from the perspective of positive psychology (Rath, 2007), and completed a survey that elicited their perspectives on the influence of their personality characteristics on student assessment. A total of 75 participants fulfilled all study activities, with equal numbers remaining in the control and intervention groups.

Descriptive and reliability quantitative analyses were performed to evaluate the effect of training on inter/intra rater reliability in the scoring of the CCEI. Qualitative analysis was conducted to identify themes reflecting the influence of faculty personality characteristics on performance assessment. Participant decisions about student competency underwent qualitative analysis to identify performance factors that influenced evaluation decisions.

The results of this study inform best practices in high stakes assessment using simulation. Descriptive and statistical findings will be presented that extend the results of the original NLN project and suggest principles and methods for training faculty evaluators. The qualitative findings suggest it is important for nursing faculty to be mindful of their strengths when evaluating student performance. The results of this study suggest important implications for the design, implementation, and facilitation of simulation when used for high-stakes assessment. Ongoing research about the multiple factors that influence high-stakes assessment of clinical simulation using experimental and multi-method designs is recommended.

Title:

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Keywords:

High-stakes assessment, clinical simulation and nursing faculty

References:

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Abstract Summary:

This presentation describes the results of a nationwide, experimental study that tested the effectiveness of a training intervention in producing inter and intra rater reliability among nursing faculty evaluating student performance in clinical simulation. The study produced important conclusions about best practices in high stakes assessment.

Content Outline:

Introduction

- High stakes assessment in simulation

- Fair testing guidelines

Body

- Research study design

 - Randomized, control study

 - Control and Intervention groups

- Multi-method study

 - Quantitative: IRR

Qualitative: narrative survey

Nationwide recruitment of pre-licensure nursing faculty

Inclusion criteria

Exclusion criteria

Methods

Training intervention

Webinars

Remediation plan

Delivery of study activities

Blackboard LMS

Webinar software platform

Findings/results

Quantitative results

Control group

Intervention group

Qualitative results

StrengthsFinder analysis

Competency decision analysis

Study conclusions

Effectiveness of training intervention

Development of shared mental model

Influence of personality characteristics

Conclusion

Implications and recommendations for nursing education

Implications and recommendations for nursing education research

First Primary Presenting Author

Primary Presenting Author

Ann Holland, PhD, RN
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Professional Experience: Ann Holland is a Professor of Nursing at Bethel University in St. Paul, MN. Her academic teaching focuses on adult medical/surgical nursing and leadership development. She worked many years in staff nurse, educator, and manager roles in adult intensive care settings. She has presented nationally on the teaching of race and racism in nursing education, and the use of debriefing to improve learning in simulation. She previously served as Director of Nursing and Academic Dean in an Associate Degree Nursing program.

Author Summary: Dr. Holland is Professor of Nursing at Bethel University in St. Paul, MN. She teaches medical/surgical nursing, leadership, and health policy. She has expertise in clinical teaching and simulation. Dr. Holland has conducted research and presented nationally on topics ranging from the teaching of race and racism in nursing, simulation debriefing, innovations in clinical education, and high-stakes assessment in simulation.

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Author Summary: Dr. Bambini is a Professor at Grand Valley State University. Her research interests include women's health, adolescent health perceptions, and strategies to enhance teaching effectiveness. She chairs the Simulation Advisory Committee for the university, helping faculty to implement simulation. Dr. Bambini is a Certified Nurse Educator (CNE, 2008), Health Information Technology Scholar (HITS), was selected as a Simulation Educator Leader (NLN, 2013), and inducted as a Fellow into the NLN Academy for Nursing Educators (2014).

Third Secondary Presenting Author

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Professional Experience: Linda currently teaches a clinical component of a senior nursing course addressing patients with complex issues in a baccalaureate nursing program. She is the simulation coordinator for the nursing department, implementing simulations into all levels of the curriculum and providing seminars to develop faculty in the use of simulation. She coauthored a publication in 2008, "Nursing Students' Thinking During Medication Administration" with the Minnesota Baccalaureate Psychomotor Skills Faculty Group. Previous research includes "Faculty Perceptions of a Faculty Development Workshop on Simulation", and "Nursing Students' Thinking During Medication Administration". And she has presented numerous presentations on simulation at nursing conferences.

Author Summary: Dr. Blazovich is Associate Professor of Nursing and Director of Simulation at St. Catherine University. Simulation was a focus of her doctoral degree and she is skilled in all aspects, including scenario development, facilitation, and debriefing. She introduced simulation to the nursing program in 2007 and has been instrumental in the integration of simulation into all levels of the nursing curriculum. Her work includes research, co-authored articles, and presentations at national and international simulation conferences.

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Author Summary: Dr. Schug teaches concepts such as evidence-based practice, nursing as a profession, nursing interventions, and leadership/management in a baccalaureate nursing program. She has a strong interest in curriculum design, program assessment and evaluation. Her current research has been in the areas of interprofessional education and simulation in nursing education.

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Professional Experience: Dr. Jone Tiffany is an Associate Professor of Nursing at Bethel University in St. Paul, MN. In her academic role, she is involved in the use of simulation in both the lab and hospital setting, and teaches nursing informatics. Dr. Tiffany is the owner of an island in the virtual world of Second Life®, Nightingale Isle where she and several colleagues have developed educational activities for healthcare students and professionals. She is also a member of the Ramsey County Medical Reserve Corp, assisting with emergency preparedness training, and giving immunizations in the community. Her research interests are Virtual Reality Simulation, Clinical Reasoning and Simulation Debriefing.

Author Summary: Dr. Jone Tiffany is Professor of Nursing at Bethel University in St. Paul, MN. In her academic role, she is involved in the use of simulation both in the lab and virtual setting, and teaches nursing informatics. She also is a member of the Board of Directors for the HealthEast Care system. She has presented on the use of simulation to improve outcomes, and on the use of virtual reality training for nursing education.