


# Impact of Standardized Patients on First Semester Nursing Students Self-Confidence, Satisfaction, and Communication in a Simulated Clinical Case

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## Abstract

**Background:** Utilizing standardized patients (SPs) as a strategy to potentially improve beginning level nursing students' confidence, satisfaction, and communication after simulated clinical cases is an innovative approach in nursing education.

**Aim:** The aim of this study was to examine to what extent an SP affected first semester nursing students' self-confidence, satisfaction, and communication using a simulated clinical case.

**Methods:** First semester undergraduate students in a bachelors of nursing program at a large university in the South-Central region of the United States ( $N = 100$ ), were randomly assigned to one of the two groups. Each group was assigned the same case using either an SP or high-fidelity manikin. Students completed postsurveys immediately following completion of the simulation. Student's self-confidence, satisfaction, and communication were measured using the National League for Nursing Student Satisfaction and Self-Confidence in Learning for Nursing Education Research and an SP/Faculty Communication Checklist.

**Results:** An independent sample  $t$  test comparing the two student groups on each of the outcome variables was conducted for each of the research questions. Students who completed the simulation with an SP, reported greater satisfaction, and improved communication. Student reflective comments were significantly more positive in the SP group. There was no statistical difference between the two groups in self-confidence.

**Conclusion:** Further research is needed to determine whether the use of SPs versus high-fidelity manikins in simulated cases results in increased self-confidence in beginning level nursing students. Student satisfaction and communication are key components for nursing student success. The impact of SPs and the effect on student outcomes could have long-term benefits for undergraduate nursing programs.

## Keywords

standardized patient, nursing students, simulation

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Health-care education began using simulation with standardized patients (SPs) and high-fidelity manikins as a way to enhance student's skills, knowledge, and communication. SPs are often used to support the education and clinical experience of nursing students in graduate programs and for continuing education and certification of registered nurses and advanced practice nurses.

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Simulation is a strategy for adult learning, emphasizing the importance of experiential learning and building on the principle that adult learners bring knowledge to learning situations and are goal- and self-directed (Gallo & Smith, 2014). The use of high-fidelity manikins has become commonplace for the use in the education of undergraduate nursing students (Churchouse & McCafferty, 2012). Nursing utilizes a variety of high- and low-fidelity simulators to create clinical experiences outside of a clinic or hospital setting for undergraduate students. Although this method has proven to be successful, there are challenges depending on the realism of the setting and equipment. Experiences with SPs to create simulated cases have been used for many years and are designed to create a high level of realism (Howley, 2013). Body language and other nonverbal cues are two features that are difficult to assess without an SP in a simulated environment. In addition, eye contact and impromptu reactions provided by an SP result in improved authenticity. SPs will potentially increase realism and create improved clinical experiences for undergraduate nursing students.

Nonverbal cues often are important assessment features that create new pathways of questioning or concern and can be valuable to the overall treatment and outcome of the patient. There is high value in receiving detailed feedback and evaluation at the end of each simulation (Society for Simulation in Healthcare, 2016). Providing students with feedback concerning both verbal and nonverbal cues and how those reactions can build or block patient rapport is a key advantage to the use of the SP in postsimulation assessments and debriefing (Gallo & Smith, 2014; Webster, 2013). Immediate feedback, after a simulated case, given directly from the SP could add value to this learning method and supports adult learning needs and desire for immediate feedback. Assessing the impact of SPs in a simulated case for first semester undergraduate nursing students regarding student confidence, satisfaction, and communication could have long-term benefits while in nursing school and as a professional nurse.

## Background

SPs have been used as a teaching modality with medical students for a number of years. Incorporating an SP experience for undergraduate nursing education is relatively new (Webster, 2014). In addition, there is little information concerning the use of simulation with the novice nursing student (Shinnick & Woo, 2013). While high-fidelity simulated environments using manikins provide many benefits to the learner, there are also shortcomings that an SP could address. An SP provides a level of fidelity that is most like the interaction with a patient (Sideras et al., 2013; Swift & Stosberg, 2015).

Defenbaugh and Chikotas (2016) reported that using SPs benefited nurses concerning communication with patients. Communicating with an SP provides students with additional information such as nonverbal cues that manikins are unable to emulate.

Communication is a preventive measure in the health-care field when it comes to a variety of medical mishaps (Sutcliffe et al., 2004). An important part of the nursing process is therapeutic communication (Becker et al., 2006). Effective preparation in communication skills among health-care providers impacts patient satisfaction and also clinical outcomes (Gibson & Davidson, 2015). Communication not only involves being a good listener but also reacting to nonverbal cues. Using SPs is one strategy to support students in meeting learning objectives for therapeutic communication (Beaird et al., 2017; Ohle et al., 2015). Practicing these skills and receiving real-time feedback in a safe environment support student development (Webster, 2014). Effective communication can also be linked to both quality of care and job satisfaction of health-care providers (Gausvik et al., 2015). Nurse educators are challenged to find effective strategies for students to practice therapeutic communication. Students benefit from feedback provided by both faculty and patients while developing their skills (Sundler et al., 2015). Inpatient clinical opportunities continue to diminish for students due to competition for clinical sites, shortened length of inpatient stays, increased patient acuity, and legal issues. Yet, inpatient, acute care settings are where that majority of new graduate nurses enter practice (McCalla-Graham & De Gagne, 2014). Simulated cases using SPs aid in creating needed experience and feedback for all levels of nursing students.

Self-confidence is a trait that often helps individuals reach their goals and creates a positive self-image which supports student success in an array of experiences. Self-confidence is important to the developing nursing student who is gaining health-care knowledge and experience and asked to use this to care for patients in a variety of health-care settings (Hsu et al., 2015). Engaging in high levels of critical thinking requires individuals to have the self-confidence to gather all the needed information and make a decision based on the information obtained. Confidence has been reported to significantly increase after experiences in clinical simulation in nursing students (Bambini et al., 2009; Hravnak et al., 2007). Student satisfaction with the overall experience of learning creates benefits for both the learner and the educator.

## Aim

The aim of this study was to examine the difference in first semester nursing students' self-confidence,

satisfaction, and communication between those who completed a simulated clinical case with an SP and those who completed the case with a high-fidelity manikin. The following research questions were answered: (a) what is the difference between first semester nursing students' self-confidence between those who completed a simulated clinical case with an SP and those who completed the case with a high-fidelity manikin, (b) what is the difference between first semester nursing students' satisfaction between those who completed a simulated clinical case with an SP and those who completed the case with a high-fidelity manikin, and (c) what is the difference between first semester nursing students' communication between those who completed a simulated clinical case with an SP and those who completed the case with a high-fidelity manikin?

## Sample

A convenience sample consisted of 100 junior baccalaureate nursing students enrolled in a foundations in nursing clinical course. All participants were in their first semester of nursing school and fully admitted to the nursing program at a large university in the South-Central region of the United States. The large majority of the students were females (94%). Students seeking a second degree comprised 4% of the sample. Of those who participated 88% were Caucasian, 2% African American, 3% Asian, 3% Hispanic, and 4% reported ethnicity as other.

## Methods

A quasi-experimental design, two groups, with posttest evaluation was used for this study. Approval by the institutional review board at the study institution was obtained. All students participated voluntarily in the completion of the surveys; however, the simulation was part of the foundation clinical course in which they were enrolled and was a course requirement. Students signed an informed consent if they chose to complete the surveys, student grades were not affected by participation in this study. Student groups were randomly assigned to complete a standardized clinical case with a high-fidelity manikin or an SP.

A single case was created for the purposes of this study, an admission assessment case was developed with specific cues to prompt the student to gather more information or react to a piece of information. The case represented a client who presented to the emergency room with shortness of breath and a history of heart disease. The case was developed specifically for the education level of the targeted study group. Students were scheduled for simulation laboratory in groups of eight, a case prebriefing was provided by the simulation

coordinator. The prebriefing was limited to general information that is most often obtained by intake personal in a medical facility. The simulation lasted approximately 15 minutes with a 5-minute individual debriefing following the case completion. All students remained on site and completed group debriefing after the individual session, at which time the surveys were completed. Group debriefing lasted 30 to 40 minutes and followed structured laboratory protocols for group debriefing (Fanning & Gaba, 2007; Neill & Wotton, 2011). Group 1 completed the case with the high-fidelity simulators with faculty acting as the voice of the patient. Group 2 completed the same case with an SP. All students completed the clinical case experience individually; however, debriefing was both individual and as a student group ( $n = 8$ ). Individual feedback followed each case for all students, the feedback was provided by the SP or the faculty member simulating the patient voice.

The SPs or faculty member, who was the voice for the manikin, filled out a brief communication checklist following each interaction and then called the student back into the simulation room, immediately after the simulation, for an individual debriefing. The information shared with the student at that time focused on the communication checklist criteria. Each student completed postsurveys following the individual debriefing. Student's self-confidence and satisfaction were measured using the *National League for Nursing Student Satisfaction and Self-Confidence in Learning* tool (National League for Nursing [NLN] 2006). Students also completed a four-question researcher developed communication assessment questionnaire. The participants took approximately 5 minutes to complete the questionnaires. Group debriefing was supported by a faculty member or graduate assistant and conducted after the individual debriefing and the survey tools were completed. The study site used standard debriefing guidelines, and all faculty and graduate assistants were trained prior to participating. Everyone who led the debriefing was trained in the case and had completed the debriefing education requirements at the study site.

## Standardized Patients

For purposes of this study, SPs were defined as a person who is trained in a specific case and is acting a role. An SP portrayed a patient and created a specific clinical experience to assist the student in meeting the learning outcomes (Wallace, 2006). Simulated patients used in this study were experienced individuals trained by a certified SP trainer. The SPs operated under structured guidelines and completed a minimum of three trial runs of the case. These trials were observed by the researchers, and minor suggestions or changes were made to ensure a comparable case for each student.

## Instruments

### Self Confidence and Satisfaction Survey

Student's self-confidence and satisfaction was measured using the NLN Student Satisfaction and Self-Confidence in Learning Scale (SCLS) for Nursing Education Research. The SCLS has been used since 2006 by nurse educators to assess simulated experiences (NLN, 2006). The SCLS contains a total of 13 items to evaluate self-confidence and satisfaction. Two subscales measure satisfaction with the instruction and self-confidence. For each item, the participant self-reported their thoughts about the statements provided using a 5-point Likert-type scale. The scores for each scale were then added, higher scores indicate a positive response on both subscales. Jeffries and Rizzolo (2006) provided a Cronbach's  $\alpha$  result of .94 for the Satisfaction subscale and .87 for the Self-confidence subscale. Franklin et al. (2014) completed psychometric testing and found evidence that the scale was reliable and valid to measure both satisfaction and self-confidence after a simulated clinical experience.

### Communication Checklist and Student Evaluation

The communication evaluation tools were developed by the researchers with support from a simulation expert. Communication outcomes, from the study site's foundation course and clinical evaluation tool, were used to create the checklist. The communication checklist was completed by the SP or faculty acting as the patient voice and used a 5-point Likert-type scale (1 = *fail*, 5 = *exceeded expectations*). The checklist included the following stems: greets warmly, friendly, never rude; never talks down to you; does not interrupt, listens well, summarizes accurately; shows interests in you as a person; asks if you have questions; and uses language you understand. The SP or faculty acting as the voice for the manikin shared this information with the student in the individual debriefing. Prompting questions that the

SP and faculty used for debriefing included: how do you feel that went, what do you think went well, what would you change next time, and what did you take away from this encounter. In addition, each student was provided with a form to assess their communication and the simulation with four questions. The questions provided information on how the students felt they communicated, the most challenging part of the simulation, and what they would do differently. Two experienced clinical educators reviewed the tools for content validity; one change was made based on their report.

## Results

An independent sample *t* test comparing the two student groups on each of the outcome variables was conducted for each of the research questions. Data analysis was completed using SPSS (IBM Corporation, 2017). Assumption of normality and equal variance were met for each outcome. For additional interpretation, effect size (Hedges *G*) with each comparison, and the 95% confidence interval was completed.

While the standardized group scored higher than the nonstandardized group for each outcome of interest (Table 1), none of these differences were large enough to reach a threshold of an acceptable level of statistical significance ( $\alpha = .05$ ). No statistical significance between groups was found on any of the three outcomes; however, the effect sizes for two of the outcomes were substantial in size (Self-Confidence and Communication) and had relatively narrow confidence intervals. Student comments were recorded during the individual debriefing and were overwhelmingly more positive for the SP group.

Narrative comments were analyzed and coded for emergent themes. Focus themes were identified and reviewed by all researchers to ensure intercoder agreement. The main themes noted from the SP student group were realism and feedback. Students who completed the case with SPs made comments such as: *this is the best experience I have had in lab, the feedback from the patient*

**Table 1.** Student Satisfaction, Confidence, and Communication.

| Group                      | <i>N</i> | <i>SD</i> | Mean | <i>df</i> | <i>t</i> | <i>p</i> | Hedge's <i>G</i> |
|----------------------------|----------|-----------|------|-----------|----------|----------|------------------|
| Learning—satisfaction      |          |           |      |           |          |          |                  |
| Standardized patient       | 52       | 0.50      | 4.78 | 95        | 1.46     | .04      | 0.11             |
| High-fidelity simulator    | 48       | 0.60      | 4.01 |           |          |          |                  |
| Learning—self-confidence   |          |           |      |           |          |          |                  |
| Standardized patient       | 52       | 0.4       | 4.20 | 95        | 0.94     | .06      | 0.40             |
| High-fidelity simulator    | 48       | 0.4       | 4.04 |           |          |          |                  |
| Communication <sup>a</sup> |          |           |      |           |          |          |                  |
| Standardized patient       | 52       | 0.5       | 3.98 | 95        | 1.47     | .15      | 0.31             |
| High-fidelity simulator    | 48       | 0.74      | 2.16 |           |          |          |                  |

Note. Independent *t* tests and effect sizes for learning, confidence, and communication. *SD* = standard deviation.

<sup>a</sup>Completed by the SP or faculty member who was the manikin voice.

*will change how I interview a patient, I loved having a real person-it made a huge difference, I was nervous because this made lab real, and I feel lucky to have gotten this feedback.* The group who did not experience the SPs offered fewer narrative comments, with the majority who did comment praising the individual and immediate feedback from the faculty who was the voice of the patient. Students comments from the nonSP group included: *I liked talking to the instructor after; good clinical day and I like hearing how I did as soon as it's over.*

## Discussion

Assessing student's self-confidence, satisfaction, and communication employing two different high-fidelity simulation modalities in the same clinical case offered insight into the use of SPs versus manikins for undergraduate nursing students. Traditional simulation at the study site utilized only high-fidelity manikins for clinical simulation experiences. This increase in fidelity using SPs with beginning level undergraduate students was expected to increase confidence, satisfaction, and support communication development in beginning level nursing students.

Labrague et al. (2019) reported that students' self-confidence was improved after a clinical simulation-based activity, which increased their satisfaction, knowledge, and skills in psychomotor, assessment, and communication. Self-confidence and satisfaction are important factors for students both in the classroom and clinical setting. Student engagement in learning is directly affected by their confidence (Labrague et al., 2019). Student satisfaction also promotes future experiential learning and supports positive learning outcomes. There were indicators, from the student comments, that SPs provided a unique and valuable high-fidelity simulated clinical experience, which increased self-confidence and satisfaction, supporting the use of SPs as part of the high-fidelity laboratory experience with undergraduate nursing students.

Feedback provided by the SP in this study provided enhanced realism. The students reported that the SP providing the feedback, "felt more like the patient than an instructor." First-year nursing students lack experience which can lead to increased student stress. Students commented that having to communicate with an SP instead of the manikin created more anxiety in the beginning of the simulated case.

Anecdotally, the excitement from both the students and faculty during the SP cases was evident from non-verbal and verbal comments. Including SPs as part of the simulation laboratory experiences may have positive impact on student self-efficacy, learning, communication, and motivation (Oh et al., 2015). Realism and the feedback of an SP can provide students a very high level

of fidelity in a laboratory environment. Providing the highest level of fidelity in simulated clinical experiences, for undergraduate students, is important to the overall outcomes of the experiences (Luctkar-Flude et al., 2012). Students who have problem-solving-based feedback, after a simulation, report a higher level of satisfaction and self-confidence (Olaussen et al., 2020). Positive comments concerning the immediate and individual feedback was an unexpected outcome that was shared with the simulation laboratory coordinator at the study site.

A cost-benefit analysis for adding SPs for undergraduate nursing student simulation is currently under review, and funding for future inclusion is being explored at the study site. The results from this study support use of SPs with beginning level nursing students to increase confidence and positively impact communication in a simulated clinical experience.

## Limitations

Study limitations include the use of the researcher designed communication assessment tool, a single study site, and self-reported questionnaires. A homogeneous convenience sample is also a limitation for this study. The results may not be generalizable to other disciplines, academic levels of nursing, or geographical areas.

Number of participants is also a concern for this study. Post hoc power estimates show that the ability to detect the effect size found was approximately 66%. To have higher power and thus confidence to detect an effect size that is meaningful in a two-group situation, a minimum of 145 students is needed. In the future, planning ahead and expanding the study timeline would support increased student numbers to guarantee statistical power needed to estimate practical effect sizes. This would allow for not only statistically significant results but also, and more importantly, more precise estimates of the desired effect size for the presently measured phenomena.

## Conclusions

Further research is needed to determine whether the use of SPs versus high-fidelity manikins for simulations results in increased satisfaction, increased self-confidence, and improved communication skills in nursing students. Expansion of the sample in number and across various levels of undergraduate nursing education should be explored to support the use of SPs for enhanced simulation experiences.

While there is limited research on the use of SPs with undergraduate nursing students, the impact of providing interaction and feedback from an SP to a beginning level nursing student is apparent in this study. The

participants overwhelmingly provided positive comments concerning the opportunity to interact with the SPs and described the feedback from the SP as valuable. The increased cost of this approach requires additional analysis from an administrative perspective to assess the cost benefit. The benefit that could be offered to undergraduate students by providing authentic clinical simulation that supports satisfaction, improve self-confidence, and improved therapeutic communication could ease transition to practice and improve patient outcomes.


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