

Impact of Standardised Patient Simulation Training on Clinical Competence, Knowledge, and Attitudes in Mental Health Nursing Education

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Abstract

Background: The limited practical placement opportunities in mental health care often induce uncertainty among nursing students. To ameliorate this, simulation training, especially with standardized patients (SPs), is employed to promote clinical competence, allowing students to navigate the complexities associated with mental health nursing, including stigma and stereotypes.

Objective: This systematic literature review primarily aims to explore and synthesise the studies in simulation education research conducted related to the effects of SPs on clinical competence, knowledge and attitudes of undergraduate pre-registration mental health nursing students.

Methods: following the systematic literature review approach, a comprehensive search was conducted across five electronic databases: MEDLINE, CINAHL, Embase, PsycINFO, and Scopus. The PICO model guided the identification of search terms. The Mixed Methods Appraisal Tool (MMAT) evaluated study quality.

Results: Ten studies were included, all examining the impact of SP simulations on undergraduate nursing students. Of these, five evaluated confidence and anxiety levels, while two assessed competence and satisfaction. Other aspects such as motivation, preparation, knowledge, communication skills, and critical thinking were examined individually. The collective results indicate SP simulation as a potentially efficacious strategy for enhancing competencies in graduate nursing education.

Conclusion: Across all studies, SPs in simulation methods exerted a positive influence on mental health nursing education, bolstering students' preparation for clinical practice by reducing anxiety and fostering confidence, competence, knowledge, and communication skills. However, limitations including insufficient supervision, small sample sizes, homogenous samples, and absence of control groups were present in all studies. Future research should address these issues to fortify evidence supporting the use of SPs in mental health nursing education.

Recommendations: Further robust, experimental research with larger sample sizes and validated assessment tools is needed to corroborate these findings and explore the effects of SP simulations on a wider array of learning outcomes.

Keywords: Simulation Training, Standardized Patients, Mental Health Nursing Education, Pre-Registration Undergraduate Students, Clinical Competence, Confidence and Anxiety, Knowledge and Communication Skills.

1. Background

Simulation has increasingly gained momentum as a pivotal teaching strategy in nursing education over the recent years, originating from industries such as the military and airlines, and entering the healthcare sector with the development of the first mannequins in the 1960s (Hall, 2017). The essence of such an instructional method is its potential to offer nursing students the opportunity to evaluate, organise, and apply scientific principles in a controlled, risk-free environment (Tosterud et al., 2013). Research has shown the profound impact of simulation techniques on enhancing nursing students' confidence and practical skills, which are crucial in identifying and managing patients at risk (García-Mayor et al., 2021).

The term "modality" is often used to describe different types of simulation as components of simulation efficiency (Üzen Cura et al., 2020). These include high-fidelity, medium-fidelity, and low-fidelity simulations, virtual simulations, role-playing, and the use of standardized patients (SPs). High-fidelity simulations use advanced

technologies or mannequins to provide an environment that closely mirrors real-life clinical settings, thereby fostering critical thinking, clinical reasoning, teamwork, and skill acquisition (Hanshaw and Dickerson, 2020; Koukourikos et al., 2021; Bussard, 2015). On the other hand, medium-fidelity simulations offer a balance between high and low fidelity, utilizing task trainers or mannequins but lacking the authentic realism of the environment (Lubbers and Rossman, 2017).

Low-fidelity simulations use simple part-task trainers designed for practicing procedural skills (Koukourikos et al., 2021). Virtual simulation learning, on the other hand, incorporates digital learning environments to enhance students' decision-making and critical thinking skills (Weston and Zauche, 2021; Foronda et al., 2020). Role playing, an interactive learning strategy, allows students to engage in simulated scenarios and receive feedback in a safe environment, thus enhancing their communication skills and collaboration among professionals (Ulrich et al., 2017; Sato et al., 2017).

Standardised patients (SPs) are professionally trained individuals who simulate real patient scenarios, providing a highly authentic experience that can significantly benefit nursing students (Slater et al., 2016). Research suggests that SPs in simulation-based training can have a positive impact on the cognitive and psychomotor learning domains of nursing students (Oh et al., 2015).

In mental health education, where stigmas and stereotypes often complicate patient interactions, simulations provide nursing students with an empathetic understanding of mental health conditions, challenging their prejudices and enhancing their communication skills (Øgård-Repål et al., 2018). Despite its numerous benefits, the adoption of simulation learning within nursing education has been slow due to the perceived lack of empirical evidence supporting its effectiveness (Aebersold and Tschannen, 2013).

In conclusion, simulation modalities, particularly with the use of standardized patients, have a great potential in nursing education. They provide a unique opportunity for students to practice real-life scenarios and enhance their practical skills and confidence, fostering a more empathetic and effective approach to patient care (Shin et al., 2015). Nevertheless, more research is needed to fully understand and capitalize on the benefits of simulation learning in nursing education.

1.1 Aim and Objectives

This literature review primarily aims to explore and synthesise the studies in simulation education research conducted related to the effects of SPs on clinical competence, knowledge and attitudes of undergraduate pre-registration mental health nursing students.

Considering this review aims to examine the use of SP simulation to prepare mental health nursing students, including improving their confidence and reducing their anxiety, three research questions will be addressed:

1. Do mental health nursing students experience less fear and anxiety after interacting with standardised patients?
2. Does practice with standardised patients enhance the learning outcome including clinical competence and knowledge of mental health nursing students?
3. How satisfied are mental health nursing students with the practice they receive with standardised patients?

2. Methods and Procedures

This review uses the guidelines of Booth et al. (2016) in its design, with results reported in accordance with the preferred reporting items for systematic reviews and meta-analyses (PRISMA) standards (Liberati et al., 2009). There are numerous frameworks for determining the review question, such as SPIDER, ProPheT, PEO and PICO, for which the research question should be clear and specific (Booth et al., 2016). As a result, the study question for this review was developed using the PICO framework, which is primarily intended for therapeutic interventions (Bettany-Saltikov and McSherry, 2016). The PICO format corresponds to the study's goal, which is to determine whether there is an improvement in undergraduate nursing students' skills as a result of SP simulation. PICO is an acronym that stands for population, intervention, comparator and outcome, explained in more detail below (Boland et al., 2017).

Table 1. Review question using PICO method

P	I	C	O
Undergraduate mental health nursing students	SP simulation	Students' scores pre-intervention and post-intervention	The change in their learning outcomes such as knowledge, self-confidence and anxiety level

2.1 Search Methods

Initially, a quick scoping search was performed using PROSPERO to ensure that no systematic literature studies were already published or in the process of covering this review topic (Bettany-Saltikov and McSherry, 2016). Following that, five electronic databases were used to conduct a comprehensive search using Queen's University Belfast's library: MEDLINE, CINAHL, Embase, PsycINFO and Scopus. These databases were chosen based on their relevance to the nursing and health fields, as advised by the school librarians, to ensure that all relevant material was found. In addition, the PICO model was used initially to identify search terms (see Table 2). Once the initial search terms were identified, a two-stage search procedure was employed: the first stage comprised a search on the MEDLINE database using the library of Queen's University Belfast to identify medical subject headings (MeSH); the second stage comprised a search on the CINAHL Plus, Scopus, PsycINFO and Embase databases. To combine search keywords, the Boolean operators 'AND' and 'OR' were employed according to the PICO approach (see Table 2). The search terms used were: 'baccalaureate' or 'undergraduate students' or 'nursing education' and 'standardised patients' or 'patient simulation' and 'mental health' or 'psychiatric nursing'. The reference lists of the studies that were eligible for inclusion in this review were examined in order to identify any further relevant studies that may have been overlooked.

Table 2. Boolean operator search

<u>Criterion A</u>	AND	<u>Criterion B</u>	AND	<u>Criterion C</u>
Baccalaureate		Standardised Patients		Mental Health
OR		OR		OR
Undergraduate Students		Patient Simulation		Psychiatric Nursing
OR				
Nursing Education				

2.2 Criteria for Inclusion and Exclusion of Studies

All publications included in this study were reviewed using the exclusion and inclusion criteria. The exact requirements are given below.

2.2.1 Types of Studies

This review will include a wide variety of study types, ranging from quantitative studies, such as experimental, quasi-experimental and randomised controlled trial (RCT), to qualitative studies and studies that employ mixed methods. It was planned to conduct a search based on recent articles within the last ten years, but there were insufficient articles to address the review questions. As a result, this review included only full-text articles written in English that were published between 2009 and 2022. Besides this, pilot studies, case reports, case studies, commentaries, cohort studies, opinions, case control studies, conference proceedings and review articles were not included in this review. A decision was also made to exclude all types of literature reviews, such as systematic reviews, scoping reviews and integrative reviews, so that only primary research studies would be considered.

2.2.2 Types of Populations

In this study, only undergraduate nursing students who took mental health courses were included in the review, without any restrictions regarding gender, age or nationality. As this review focuses on undergraduate nursing students who are not yet exposed to real patient interaction, studies in which nursing students have been interacting with real patients in the field of psychiatric nursing were excluded. Postgraduate students and nurses with a nursing

license were also excluded. Moreover, any study that involved health professional students, including physiotherapy, medicine or social care, was excluded.

2.2.3 Types of Interventions or Exposure

Due to the focus of this review on the interaction of nursing students with SPs in mental health, only studies that used SP simulation in order to prepare undergraduate nursing students for clinical practice in mental health were considered for inclusion. Studies that used simulation techniques such as virtual reality, voice recognition and high-, medium- and low-fidelity human simulators were excluded. Role-play and peer role-play simulations were also excluded from this review, as they are characterised differently from SP simulations. In addition, studies that involved live simulations with actual individuals utilising real equipment were eligible for consideration, but not those involving virtual simulations or constructive simulations.

2.2.4 Types of Outcome Measures

Suitable papers for the review included those that examine the effects of simulation using SPs on the learning outcomes of undergraduate and pre-registration mental health nursing students, including anxiety, confidence, self-efficacy, knowledge and student satisfaction.

2.3 Search Outcomes

Based on a literature search of the databases, 337 studies were identified, as well as a manual search that identified four relevant articles. This search was conducted from 1 June 2022 to 6 June 2022. The articles were chosen in three stages: first, by exporting and uploading the articles to the Rayyan web-based platform to manually check and remove duplicates using Rayyan's deduplication method (Harrison et al., 2020). A total of 286 articles remained after the duplicates were removed. The titles and abstracts of these 286 articles were then screened to determine if they were relevant to the topic of the review, which focuses on the use of SP simulations in mental health education. This screening revealed that 228 articles did not meet the topic requirements; 58 articles remained. A final step involved reading the full text of each article and assessing whether it met the aims and criteria of this review. Following this, a total of ten articles remained. Figure 1 shows a PRISMA flowchart describing the shortlist process. Notably, the search was carried out by a single reviewer.

2.4 Quality Appraisal

An important step in systematic reviews is to critically assess the selected studies for their credibility, validity and reliability (Hong et al., 2019). All studies included were evaluated because of the nature of this review as it is approaching a systematic review. Based on the purpose of the included studies, which is to examine the use of SP simulation, the Mixed Methods Appraisal Tool (MMAT) could be used to evaluate the quality of trials or simulations used in primary research (Hong et al., 2018). However, multiple appraisal tools have been created to assist writers in properly evaluating study quality (Hong et al., 2019). The majority of these tools are focused on evaluating one specific form of research design; it took time to determine which tool would be most appropriate, as this review includes three types of study methods: qualitative, quantitative RCTs and quantitative descriptive. As a result, to evaluate the included studies, the MMAT was used, as it is known for its unique method of critically appraising the quality of different study designs in a standardised approach (Pace et al., 2012). Furthermore, the MMAT tool comprises five different study designs: quantitative non-randomised, quantitative RCTs, quantitative descriptive, qualitative and mixed methods (Hong et al., 2018). Further details of the study types used in this review, which are qualitative, quantitative RCTs and quantitative descriptive studies, will be elaborated (see Table 3). Thus, the MMAT tool begins with two screening questions to determine if the study is an empirical study; if the answer is 'no' or 'cannot tell', this tool cannot be applied to evaluate it. As a result of the positive responses to the first step, part two began with the five questions regarding the study design that are supposed to be answered by yes, no or cannot tell (Hong et al., 2018). Total quality was determined by calculating the number of 'yes' responses in each category (Hong et al., 2018). Based on the number of 'yes' responses, it was interpreted as indicating high quality if it exceeded 4, moderate quality if it was between 3–4, and poor quality if it was below 3. In the results section, the quality assessment of all studies will be explained.

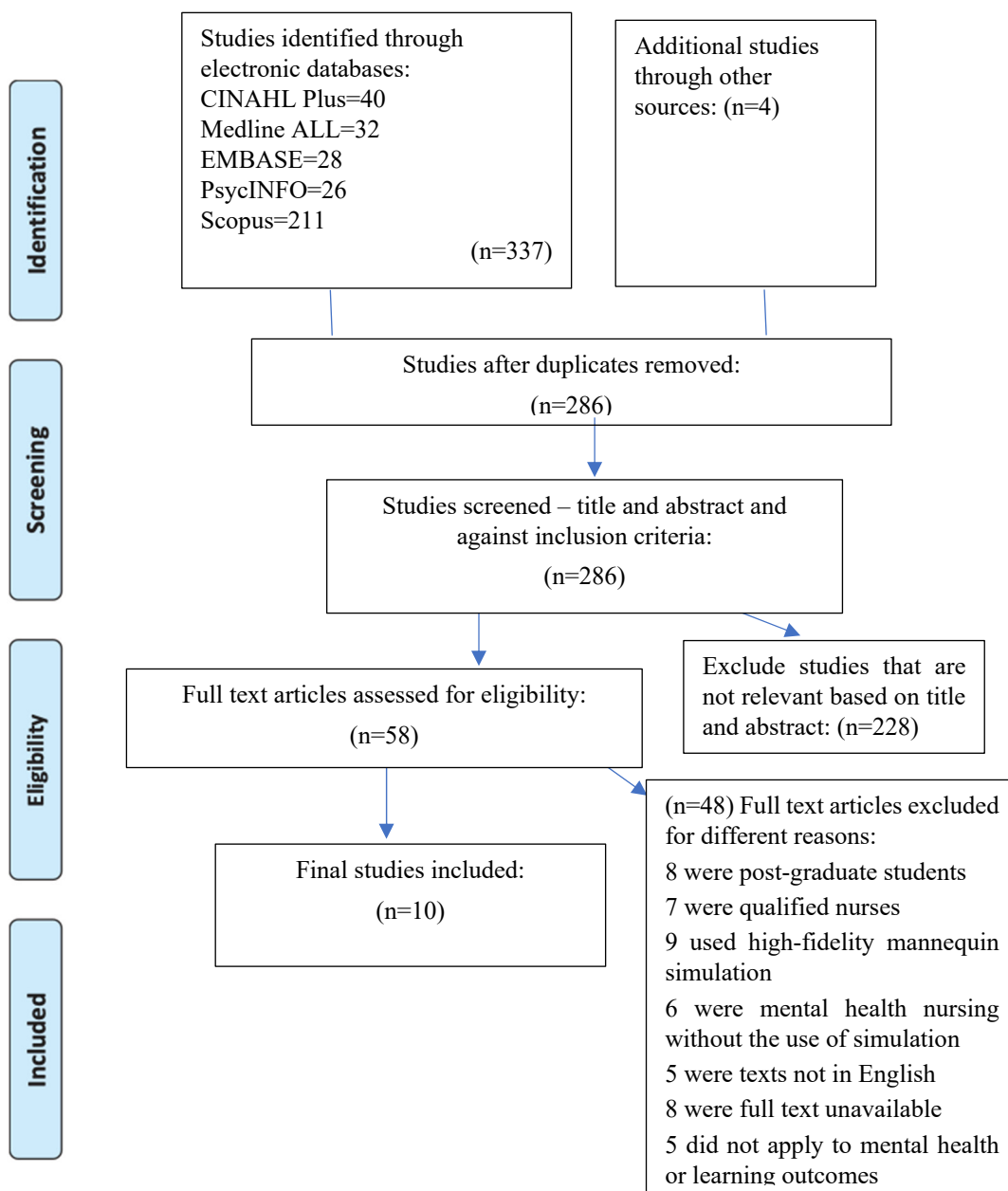


Figure 1. Diagram of the Prisma process (Liberati et al., 2009)

Table 3. Mixed Methods Appraisal Tool (MMAT) checklist (Hong et al., 2018)

Category of study designs	Methodological quality criteria	Responses		
		Yes	Can't tell	No
Screening questions (for all types)	1. Are there clear research questions?	Yes	Can't tell	No
	2. Do the collected data allow us to address the research questions?	Yes	Can't tell	No
Qualitative	1. Is the qualitative approach appropriate to answer the research question?	Yes	Can't tell	No
	1. Are the qualitative data collection methods adequate to address the research question?	Yes	Can't tell	No
	1. Are the findings adequately derived from the data?	Yes	Can't tell	No

	1. Is the interpretation of results sufficiently substantiated by data?	Yes	Can't tell	No
	1. Is there coherence between qualitative data sources, collection, analysis and interpretation?	Yes	Can't tell	No
Quantitative randomised controlled trials	1. Is randomisation appropriately performed?	Yes	Can't tell	No
	2. Are the groups comparable at baseline?	Yes	Can't tell	No
	3. Are there complete outcome data?	Yes	Can't tell	No
	4. Are outcome assessors blinded to the intervention provided?	Yes	Can't tell	No
	5. Did the participants adhere to the assigned intervention?	Yes	Can't tell	No
Quantitative descriptive	1. Is the sampling strategy relevant to address the research question?	Yes	Can't tell	No
	2. Is the sample representative of the target population?	Yes	Can't tell	No
	3. Are the measurements appropriate?	Yes	Can't tell	No
	4. Is the risk of non-response bias low?	Yes	Can't tell	No
	5. Is the statistical analysis appropriate to answer the research question?	Yes	Can't tell	No

Notes. *'yes' indicates the presence of a clear statement in the paper that directly answers the question; 'no' indicates the presence of a clear statement in the paper that directly answers the question negatively; 'can't tell' indicates that there is no clear statement in the paper that answers the question.

2.5 Data Extraction and Synthesis

After assessing the quality of all research, pertinent data were extracted from the included studies independently to permit both descriptive and analytic interpretation of the data (Boland et al., 2017). A table was generated for each study, containing the following information: 1) author, year, country; 2) purpose of the study; 3) study design, sample, setting; 4) method and measures, intervention; 4) outcome and results; 5) MMAT rating (see Table 4). According to Hong et al. (2017), data from qualitative research (n = 2), quantitative descriptive studies (n = 7), and quantitative RCTs (n = 1) were extracted using convergent thematic and narrative analysis. The use of a data extraction form could improve the validity of the results by regulating the comparison process between studies (Bettany-Saltikov and McSherry, 2016).

The synthesis of the results obtained from all included studies is an essential part of any literature review to allow for comparisons between studies or to find common themes (Bettany-Saltikov and McSherry, 2016). According to Dixon-Woods et al. (2005), narrative synthesis is an effective method for integrating data from a variety of study designs, which has been appropriate to report the results of this review. However, although meta-analysis is considered to be the most effective method for describing quantitative approaches, a narrative approach was chosen due to differences in study types and quality (Booth et al., 2016). Therefore, the findings have been synthesised narratively for the purpose of providing a concise explanation of the types of cases and instruments used in the SP simulation scenario, the methods used in the studies and study outcomes and the main themes that emerged.

3. Results

3.1 Origin of the Studies

The studies included in this literature review were published between 2009 and 2021. Additionally, they were conducted in five different nations. Table 2 presents a summary of relevant information about the ten included studies: five were conducted in the United States (Robinson-Smith et al., 2009; Kameg et al., 2014; Webster, 2014; Martin and Chanda, 2016; Speeney et al., 2018); two were conducted in Turkey (Sarikoc et al., 2017; Ok et al., 2019); and one each in Norway (Knutson de Presno et al., 2021), Singapore (Goh et al., 2016) and South Korea (Choi, 2012). Finally, the number of participants in the included studies ranged from 11 to 112 and the majority of the studies used descriptive quantitative methodology (Robinson-Smith et al., 2009; Kameg et al., 2014; Webster, 2014; Goh et al., 2016; Martin and Chanda, 2016; Speeney et al., 2018; Ok et al., 2019) with only two using a qualitative design (Choi, 2012; Knutson de Presno et al., 2021) and one using an RCT design (Sarikoc et al., 2017).

Table 4. A summary of the studies included

Author(s), country	year,	Study aims	Study design, sample, setting and participants	Method and measures, Intervention	Outcome and results
Choi (2012), South Korea		This study aimed to investigate and understand nursing students' experiences with mental simulation using SPs, as well as to determine the value of these simulations.	Design: Inductive, interpretative and constructionist type qualitative research. Sample: Theoretical sampling was adopted, N=11 undergraduate nursing students. Setting: None	<ul style="list-style-type: none"> – In-depth interviews to explore experiences with the psychiatric nursing simulation lasted 50–90 minutes; all were recorded and transcribed. – Andersen's proposal for thematic content analysis was used. - In-class learning followed by psychiatric simulation using SPs. 	Overall, they had a positive response, such as feeling safe during practice, increasing confidence, recognising the gap between SPs and actual patients and wanting more simulation.
Knutson de Presno et al. (2021), Norway		This study aimed to explain nursing students' perspectives on simulations with SPs prior to practical placement in mental health nursing.	Design: A qualitative descriptive design. Sample: N=24 undergraduate nursing students were divided into four focus groups (six students in each group). Setting: None	<ul style="list-style-type: none"> – Focus group interviews were conducted by two of the authors, which lasted 35–60 minutes and were audio recorded and transcribed verbatim. – Thematic analysis by Braun and Clarke with an inductive six-step technique was employed. 	Students reported that this experience gave them insights into daily life in the mental health placement, increased mutual respect for patients and decreased their stress levels.
Sarikoc et al. (2017), Turkey		This study aimed to assess how the use of SPs in psychiatric cases affects nursing students' motivation and perceptions of learning.	Design: A pre-post-test in an RCT, both quantitative and qualitative methods were used. Sample: N=86 third-year nursing students were divided into two groups as an experimental group and a control group. Setting: Gulhane Military Medical Academy School of Nursing in Turkey .	<ul style="list-style-type: none"> – Motivation and Learning Strategies Scale (MLSS) (31 items) – Perceived Learning Scale (PLS) (9 items) – Educational method evaluation form (13 questions) <ul style="list-style-type: none"> – Interviews with SPs in two scenarios (a depressed patient and a hallucinating patient) 	The overall scores in the experimental group were higher than the control; they reported feeling more competent about practical training in clinical psychiatry as well as less anxious.
Goh et al. (2016), Singapore		This study aimed to investigate the learning experiences of undergraduate nursing students using SPs for mental health nursing.	Design: A pre-post-test, single-group quasi-experimental design. Sample: A convenience sample, N=95 second-year undergraduate nursing students. Setting: The Centre for Health Simulation in a university in Singapore.	<ul style="list-style-type: none"> – Using a self-report questionnaire – The NLN Student Satisfaction and Self-Confidence in Learning Survey (NLC scale) (13 items) – Using a standard didactic tutorial session and an SP session 	There was a considerable increase in student satisfaction and confidence, as well as positive qualitative feedback about the use of SPs as an effective technique.

Kameg et al. (2014), USA	This study aimed to determine whether the use of SP simulation can decrease student anxiety or depression	<p>Design: A quasi-experimental design.</p> <p>Sample: A convenience sample, N=69 senior year baccalaureate nursing students.</p> <p>Setting: Robert Morris University in the USA.</p>	<ul style="list-style-type: none"> – The State–Trait Anxiety Inventory (STAI) (40 items) – An anxiety visual analogue scale (VAS) (single-item) – The simulation evaluation survey (9 questions) <ul style="list-style-type: none"> – Interact with SPs in two scenarios 	Student anxiety was significantly reduced, and the findings give preliminary support for using SPs as a teaching tool in the mental health specialty.
Ok et al. (2019), Turkey	This study aimed to assess the influence of employing SP simulation on mental health nursing students' anxiety levels and communication skills before clinical placement.	<p>Design: A semi-experimental, pre-post-test control group design.</p> <p>Sample: N=85 third-year nursing students from two different universities consisted of a control group (n = 33) and an intervention group (n = 52).</p> <p>Setting: Nursing departments of the faculties of health sciences of two universities in Istanbul.</p>	<ul style="list-style-type: none"> – Communicational Skills Inventory (CSI) (45 items) – State–Trait Anxiety Inventory (STAI) (20 items) – Using an SP simulation 	The intervention group reported reduced anxiety and increased communication skills.
Speeney et al. (2018), south-western Pennsylvania	This study aimed to assess the influence of SP simulation on undergraduate nursing students' knowledge and perceived skills in caring for a schizophrenic patient.	<p>Design: A quasi-experimental design.</p> <p>Sample: A convenience sample, N=52 fourth-year undergraduate nursing students.</p> <p>Setting: A private university in south-western Pennsylvania.</p>	<ul style="list-style-type: none"> – A visual analogue scale (VAS) (10 items) – The knowledge quiz (10 items) <ul style="list-style-type: none"> – Using an SP simulation scenario 	Students' knowledge and perceived competency were both improved.
Robinson-Smith et al. (2009), Pennsylvania	This study aimed to assess and create the satisfaction of nursing students who encounter SP simulations in which they take a mental status test and a suicide risk assessment.	<p>Design: A descriptive research design</p> <p>Sample: A convenience sample, N=112 junior-level undergraduate nursing students</p> <p>Setting: Villanova University College of Nursing in Pennsylvania.</p>	<ul style="list-style-type: none"> – The NLN Student Satisfaction and Self-Confidence in Learning Survey (9 items) – SP care scenarios 	The SP interviews improved overall perceived student self-confidence, critical thinking and learning satisfaction.

3.2 Simulation Types and Preparations

SPs were sourced from university simulation centers, local hospitals, student bodies, and local acting groups. Preparation varied widely, with SPs receiving case scenarios weeks in advance and training in the simulation context. Notably, nursing students or nurses acting as SPs had more extensive preparation.

3.3 Simulation Topics

The scenarios employed in the reviewed studies varied, with most using two case scenarios in their intervention process. Depression was the most common scenario, often featuring a patient with suicidal ideation. Other mental health conditions represented include schizophrenia, anxiety, mania, and various other diagnoses. One study did not specify the scenario nature.

3.4 Duration and Period

The review found that the simulation session's duration ranged from three minutes to four hours, and most often included a debriefing or feedback session. Few studies clarified the interaction duration between students and SPs, and several did not detail the number or duration of simulation sessions.

3.5 An Assessment of the Methodological Quality

The reviewed studies were assessed for methodological quality using the MMAT, resulting in three studies rated high, seven moderate, and none poor. The identified methodological issues varied across studies, with common weaknesses including small sample size, lack of control group, use of self-report instruments, and inconsistencies in the use of SPs.

Table 5. The result of MMAT

Studies	Q1	Q2	Q3	Q4	Q5	(MMAT) Quality
Robinson-smith et al. (2009)	Yes	Yes	Yes	Yes	Yes	High
Choi (2012)	Yes	Yes	Yes	Yes	Yes	High
Kameg et al. (2014)	No	Yes	Yes	Can't tell	Yes	Moderate
Webster (2014)	No	Yes	No	Yes	Yes	Moderate
Goh et al. (2016)	No	Yes	Yes	Can't tell	Yes	Moderate
Martin and Chanda (2016)	No	Yes	Yes	Can't tell	Yes	Moderate
Sarikoc et al. (2017)	No	Yes	Yes	Yes	Yes	Moderate
Speeney et al. (2018)	No	Yes	Yes	Can't tell	Yes	Moderate
Ok et al. (2019)	Yes	Yes	Yes	Yes	Yes	High
Knutson de Presno et al. (2021)	Yes	Yes	Yes	Yes	Can't tell	Moderate

3.6 An Explanation of the Main Findings

A number of outcome variables were examined in the reviewed studies, including anxiety, self-confidence/self-efficacy, satisfaction, perceived learning, critical thinking, communication skills, knowledge and students' competences. A positive impact was found in all reviewed studies when SPs were used as simulation methods in mental health courses. As a result of this review, three themes were identified, namely: 1) the positive effect of using SPs on the affective skill of mental health nursing students; 2) the positive effect of using SPs on mental health nursing students' cognitive and psychomotor skills; and 3) nursing students' perceptions on using SPs in mental health nursing education.

3.7 Positive Effect of Using Standardised Patients on the Affective Skill of Mental Health Nursing Students

Based on the findings of this literature review, a prominent theme emerged concerning the impact of SPs on nursing students' affective skills. Affective dominion refers to feelings that one has when confronting a person, object or situation, including relationships, feelings, postures, attitudes, satisfaction and responsibilities (Nascimento et al., 2021). The domains of affective skills examined in this review include anxiety, self-confidence/self-efficacy, motivation to learn and satisfaction to learn. Seven out of ten studies identified these skills as an important outcome of using SP mental health nursing education.

3.7.1 Anxiety Outcomes

Among the ten studies, five papers reported anxiety levels. In three quantitative studies, a variety of tools were used to examine student anxiety levels (Kameg et al., 2014; Webster, 2014; Ok et al., 2020). In two qualitative studies, the data on anxiety was collected through individual interviews or focus groups (Choi, 2014; Knutson de Presno et al. 2021).

Kameg et al. (2014) conducted a quasi-experimental study to determine whether SPs can minimise student anxiety in simulation training. Sixty-nine undergraduate students in the senior level were conveniently sampled for inclusion in the study. The anxiety of the study participants was quantitatively indicated using the anxiety visual analogue scale and the STAI. The results indicated statistically significant reductions in student anxiety following the inclusion of SPs in simulation training (Kameg et al., 2014). This study showed support towards the incorporation of SPs as a teaching tool in the mental health specialty. Similarly, the Standardised Patient Experiences evaluation criteria, comprising 14 criteria, were used by Webster (2014) for evaluating the effectiveness of using SPs for the instruction of therapeutic communication skills in mental health nursing. Based on the results, 12 of the 14 criteria showed significant differences, indicating that therapeutic communication skills have improved. Furthermore, students reported a decrease in overall anxiety during interactions with individuals with mental illness as well as satisfaction with their learning experience. In similar vein, Ok et al. (2020) evaluated the effects of the incorporation of SP simulation before clinical rotation of the students in mental health units. The measures of outcome were the anxiety levels and communication skills of nursing students. The research involved 85 nursing students from two institutions of higher learning and collected pre-test and post-test data evaluating anxiety and communication skills. The results revealed that the intervention group that took part in an SP simulation had decreased anxiety and improved communication skills (Ok et al., 2020). The authors concluded that SP simulation before clinical practices might help mental health nursing students gain proficiency.

A qualitative research study was conducted by Choi (2014) to investigate the experiences of 11 undergraduate students with psychiatric nursing simulations. It was reported by the students that they felt safe during the simulation and were able to communicate effectively with the SP without any concerns. Based on the results obtained, the simulated practicum provided a safe environment in which students could gain practical experience. In a similar manner, Knutson de Presno et al. (2021) conducted four focus-group interviews with 24 nursing students following the completion of mental health simulations involving SPs. As a result of being exposed to nurse facilitators from the psychiatric ward as well as SPs who appeared to be 'normal', students reported a reduction in their stress levels compared to before the simulation training.

3.7.2 Self-Confidence/Self-Efficacy Outcomes

Numerous studies have repeatedly established that self-confidence is an essential component of the experience of anxiety. It was found that individuals who perceive anxiety symptoms as helpful in their occupational performance have greater self-confidence than those who perceive them as debilitating (Şar et al., 2010). However, in reviewed studies self-confidence/self-efficacy was discussed in six papers, each using a different outcome measure (Robinson-Smith et al., 2009; Choi, 2014; Goh et al., 2016; Martin and Chanda, 2016; Sarikoc et al., 2017; Knutson de Presno et al., 2021). A study conducted by Robinson-Smith et al. (2009) collected data from 112 undergraduate nurses on their self-confidence following the completion of a simulation in which they were required to conduct a suicide risk assessment. It was reported that students felt more confident about their ability to assess mental illness. A similar study conducted by Goh et al. (2016) examined the learning experience of second-year undergraduate nursing students learning mental status examination and suicide risk assessment through a standard didactic tutorial session and an SP session. Students' confidence levels were significantly increased as a result of the use of SP sessions prior to their clinical placements in mental health settings. It was found that self-confidence levels differed significantly among students who took care of a mentally ill patient after adjusting for pre-test scores. Additionally, Martin and Chanda (2016) conducted a study to examine the impact of simulation education using SPs on nurse mental health confidence during communication. After undergoing mental health simulation exercises using SPs, students' self-reported confidence in their communication skills and knowledge was greatly enhanced.

A qualitative study by Choi (2014) examined undergraduate students' experiences with simulations of psychiatric nursing involving SPs. As a result of their practice of identifying patients' clinical contexts, developing confidence in their approach, and actively participating in clinical practicums, the students gained confidence in their clinical practicums. Similar to Choi (2014), a qualitative study by Knutson de Presno et al. (2021) interviewed 24 undergraduate nursing students following mental health simulations. Based on the results, nursing students perceived simulations with SPs in preparation for mental health clinical placements to be helpful strategies for developing interpersonal skills and increasing self-efficacy perceptions. A randomised and controlled study

conducted by Sarikoc et al. (2017) examined the motivation and perceptions of 86 third-year undergraduate mental health nursing students using SPs in psychiatric cases. The second section of the Educational Method Evaluation Form consists of four questions related to a student's self-efficacy in conducting an interview with a mentally ill individual. After participating in SP encounters, experimental group members scored higher on self-efficacy for conducting interviews compared with pre-test scores and the control group.

3.7.3 Learning Satisfaction and Motivation Outcomes

In this review, two quantitative studies (Robinson-Smith, 2009; Goh et al., 2016) examined students' satisfaction with their education through the use of the same tool, a student satisfaction and self-confidence learning survey. Both studies found that students were satisfied with the effectiveness of SPs as teaching tools in mental health nursing education at the undergraduate level. To illustrate, Goh et al. (2016) observed that students' satisfaction prior to clinical placement in a mental health setting was significantly increased by using SPs in undergraduate mental health nursing education. As in Robinson-Smith's (2009) study, students were satisfied with the ways in which they were taught to prepare for SP encounters and with how this activity was used to learn. As a result of SP encounters, students reported that they were motivated to learn, and they had a positive experience.

In addition, as part of their randomised and controlled study, Sarikoc et al. (2017) obtained both quantitative and qualitative data from 86 third-year undergraduate mental health nursing students in order to determine the impact of using SPs in psychiatric cases on the students' motivation and perceptions of their learning. The experimental group achieved higher motivation scores than the control group as well as their pre-test scores. By using the SP methodology, the students were able to enjoy the learning process and were actively involved in it. Furthermore, despite the fact that students in both groups were highly satisfied at the end of the study, the experimental group rated the physical environment higher than the control group in terms of its appropriateness.

3.8 Positive Effect of Using Standardised Patients on Mental Health Nursing Students' Cognitive and Psychomotor Skills

A second theme derived from this literature review is the impact of SPs on the cognitive and psychomotor skills of mental health nursing students. Cognitive skill is defined as the ability to acquire knowledge and master it. In this domain, there are the following categories: knowledge, application, comprehension, synthesis, analysis and evaluation (Nascimento et al., 2021). Psychomotor skill involves actions, such as those related to physical abilities or manual skills. It consists of a number of categories including perception, mechanism, set, guided response, adaptation, complex responses and organisation (Nascimento et al., 2021). First, perception is the capacity to understand sensory cues to direct physical activity. Second, set refers to the disposition to respond to a specific situation mentally, physically, or emotionally. Third, adaptation is the capacity to change acquired skills to fit new demands. Fourth, organization is the ability to generate new movement in response to specific circumstances. In addition, a number of simulation papers describe the observable abilities of learners by referring to them as 'competences', 'performances', 'skills' and 'behaviours' (Warren et al., 2016). This review examines several cognitive and psychomotor skills domains, including clinical competency, critical thinking, knowledge acquisition and communication skills. To clarify, two papers in this review discuss nursing clinical competence in general (Sarikoc, 2017; Speeney et al., 2018), while two articles examine a single nursing skill, namely critical thinking, knowledge acquisition and communication skills (Robinson-Smith, 2009; Ok et al., 2019).

3.8.1 Knowledge, Competence, Critical Thinking, and Communication Skills Outcomes

It is noteworthy that cognitive and psychomotor skills have been addressed together, which include knowledge, competencies, critical thinking, and communication abilities. All learning behavior domains are interdependent and prerequisite to each other (Sönmez, 2017). Knowledge, critical thinking, and communication skills, however, were evaluated once, whereas competence was examined twice.

Sarikoc (2017) examined students' perceptions of learning in three subdimensions: affective, psychomotor and cognitive. As a result of the study, the nursing students perceived that they had improved their ability to learn in affective, psychomotor and cognitive domains. Similarly, Speeney et al. (2018) conducted a quasi-experiment to determine the effect of the use of SPs in simulation scenarios on undergraduate nurse students' understanding and apparent competency. The simulation scenario portrayed a patient with schizophrenia. The results showed that including SP simulation in the psychiatric mental health training improved students' understanding and apparent competency in treating patients diagnosed with schizophrenia (Speeney et al., 2018). The authors concluded that SPs simulation could help promote better mental health care outcomes. Robinson-Smith et al. (2009) conducted a study to examine mental health nursing students' satisfaction and confidence regarding the use of SPs as a method of assessing mental health patients. The Student Satisfaction Survey, however, included three questions on critical

thinking as part of its examination of nursing confidence and satisfaction. Consequently, mental health nursing students have significantly improved their critical thinking skills after interacting with SPs. Additionally, Ok et al. (2019) conducted a study to find out whether using SPs was associated with a reduction in anxiety levels and a better understanding of communication skills among nursing students attending mental health and psychiatric nursing courses. Students' communication skills were positively affected by the simulation method, as demonstrated by the findings.

3.9 Students' Perceptions on Using Standardised Patients in Mental Health Nursing Education

A third theme arising from this literature review concerned students' views on using SPs in mental health nursing education.

3.9.1 Preparedness for Practice

Goh et al. (2016) utilised qualitative questions as part of their study to examine students' perspectives regarding the use of SPs as part of the learning journey. Students reported that SPs brought about a realistic approach to their learning, and many students responded positively to their use. In addition to the positive feedback provided by students, Goh et al. (2016) reported that students described the session as a valuable one that could be extended to a larger group of students for more practice. Additionally, Sarikoc et al. (2017) reported that SP methodologies assisted students in preparing themselves for participation in clinical practice, understanding the purposes for which clinical skills should be performed, and improving their performance in these areas. The SP methodology by its very nature allows students to feel comfortable in the physical environment, as explained by Sarikoc et al. (2017). Students felt more powerful in terms of their theoretical and practical knowledge when using SP methodology in their psychiatric nursing training.

3.9.2 Demystified Bias

Knutson de Presno et al. (2021) conducted a qualitative descriptive study that involved 24 undergraduate nursing students. Based on the results, one-to-one simulation encounters demystified bias toward mental health patients. The student moved from viewing the patient as a crazy psychiatric patient to an individual with mental illness and certain difficulties. The students reported feeling compassion for the patient, and their choice of actions toward them were based on respect, equality and moral commitment (Knutson de Presno et al., 2021). These experiences reflect the basic components and skills required to establish therapeutic relationships.

4. Discussion

This literature review aims to scrutinise and amalgamate findings from various studies on simulation education, focusing specifically on the impact of SP simulation on pre-registration mental health nursing students in relation to clinical competence, knowledge and attitudes. The studies included in this review indicate that SP teaching significantly enhanced students' confidence/self-efficacy, learning satisfaction, motivation, skills and knowledge (Robinson-Smith et al., 2009; Choi, 2014; Goh et al., 2016; Martin and Chanda, 2016; Sarikoc et al., 2017; Knutson de Presno et al., 2021). However, it is imperative to consider the heterogeneous nature of these studies and the inherent limitations of their methodology, including lack of randomisation, insufficient statistical power, and inadequate variance estimates, when interpreting these conclusions.

Regarding anxiety in nursing students, Ok et al. (2019) highlight the potential risks posed by students' fears and anxieties to their safety and that of their patients. These fears can negatively affect learning and impede the establishment of therapeutic relationships. Therefore, anxiety reduction becomes essential for the competent delivery of care (Labrague et al., 2019). Several studies concluded that SP simulations effectively reduced anxiety in mental health nursing students (Choi, 2014; Kameg et al., 2014; Webster, 2014; Ok et al., 2020; Knutson de Presno et al., 2021), which aligns with previous literature advocating for SPs in relieving nursing students' fear and anxiety (Brown, 2015; MacLean et al., 2017; Øgård-Repål et al., 2018). Nonetheless, the dearth of experimental studies and methodological constraints such as small sample size and lack of validated assessment tools necessitate cautious interpretation of these results, suggesting a need for further research.

In the context of current clinical site limitations, simulation education has been validated as an effective method for augmenting students' experiences (Labrague et al., 2019). Consistently, all studies exploring self-confidence/self-efficacy reported a positive impact following SP interaction, echoing previous findings underscoring the role of SPs in fostering students' self-confidence/self-efficacy (Brown, 2015; MacLean et al., 2017; Øgård-Repål et al., 2018). Nevertheless, the results should be interpreted circumspectly due to methodological constraints, and further studies using validated tools are recommended.

Evaluating clinical skills and knowledge, all learning outcomes showcased an elevation in skills and knowledge

following simulations, underscoring SPs as a potent tool for enhancing knowledge in mental health nursing students (Speeney et al., 2018). The importance of knowledge to patient outcomes is highlighted in Kim et al. (2020), and the utility of SPs in transferring classroom learning to the clinical environment is stressed in Donovan and Mullen (2019). Still, due to limited research examining the impact on knowledge and the use of non-validated assessment tools, caution should be exercised when interpreting these results (Speeney et al., 2018).

An analogous interpretation applies to the role of SPs in improving nursing students' clinical competence (Sarikoc et al., 2017; Speeney et al., 2018). Studies that investigated students' competence combined several skills, while others examined individual skills such as communication and critical thinking. Both Robinson-Smith et al. (2009) and Ok et al. (2019) observed an improvement in these competencies following SP simulations, consistent with MacLean et al. (2017). Further research to corroborate these findings, however, is warranted.

Moreover, this review highlights students' positive perspective towards practising with SPs and their satisfaction and motivation in interacting with them. Such student satisfaction has been correlated with increased engagement and performance (Cabañero-Martínez et al., 2021), and with overcoming the shortage of high-quality clinical placements in mental health nursing (Mullen & Murray, 2002). Despite the promising results, further research is required, particularly to explore the elements of the simulation programmes that students find most satisfying and least satisfying.

Furthermore, numerous students reported an increased preparedness to assess and communicate with psychiatric patients, viewing them not as mere psychiatric cases but as individuals with specific difficulties (Knutson de Presno et al., 2021). While this outcome supports previous research, it is imperative to conduct further studies using larger samples to corroborate these findings. Although only one study explored this aspect (Knutson de Presno et al., 2021), Doolen et al. (2014) also discussed the impact of face-to-face meetings with SPs in developing empathy and sensitivity among students. However, given the scarcity of literature in this area, more extensive research is needed.

5. Conclusion

Simulation education, with its non-threatening environment for skill practice, plays a significant role in preparing students for actual clinical scenarios. SPs, in particular, enable students to enhance their knowledge and competence by interacting with real people, thereby receiving tangible feedback on their performance. This review scrutinised the impact of SP-based simulations on the clinical competence, knowledge, and attitudes of pre-registration mental health nursing students. Despite methodological limitations, the literature provided sufficient evidence to endorse SP simulations as a useful tool in boosting students' clinical skills. The results suggest that SP-based simulations ameliorate students' preparedness for nursing practice by reducing anxiety levels and fortifying confidence, competency, knowledge, and communication skills. Some students even expressed a desire for more SP-based simulations, recognising the noticeable improvement in their clinical skills. Despite these positive outcomes, there is an urgent need for more robust, experimental research that investigates the impact of SP-based simulations on learning outcomes, utilising larger sample sizes and validated assessment tools.

In response to the research questions posed, the review found that mental health nursing students do indeed experience less fear and anxiety after interacting with SPs. The non-threatening environment provided by SP simulations allows students to practice their skills and receive feedback, which helps to reduce anxiety levels and increase confidence.

The review also found that practice with SPs enhances the learning outcomes of mental health nursing students. Specifically, students' clinical competence and knowledge were improved after interacting with SPs. Despite the methodological limitations of the studies reviewed, the literature provided sufficient evidence to endorse SP simulations as a useful tool in boosting students' clinical skills.

Regarding student satisfaction, the review found that students were generally satisfied with the practice they received with SPs. Some students even expressed a desire for more SP-based simulations, recognising the noticeable improvement in their clinical skills. This suggests that SP-based simulations not only enhance students' clinical skills but also contribute to their satisfaction with their learning experience.

Despite these positive outcomes, the review identified a need for more robust, experimental research that investigates the impact of SP-based simulations on learning outcomes, utilising larger sample sizes and validated assessment tools. The review also highlighted the need to broaden the scope of research to include other types of healthcare education and to include studies published in languages other than English.

This review is subject to certain limitations. Conducted single-handedly within a limited timeframe and with limited resources, potential language bias could have been introduced by restricting the search to English-language

articles. Consequently, valuable contributions from other languages may have been overlooked, introducing the risk of publication bias by excluding unpublished data like theses and dissertations. Furthermore, the review focused solely on undergraduate mental health nursing education, potentially missing insights from other types of healthcare education. Despite these constraints, the study offers invaluable insights into the effectiveness of simulation-based learning in mental health nursing.

Though simulation education employing SPs has shown substantial improvement in several learning outcomes, such as self-confidence/self-efficacy, clinical skill performance, critical thinking, knowledge acquisition, communication skills, and perceived motivation and satisfaction, there is a noticeable scarcity of studies evaluating the impact of SP-based simulations in mental health nursing education. Thus, the need to explore the effects of SP simulations on an extensive array of learning outcomes is highlighted. Moreover, future studies should focus on comparing the effectiveness of SP-based simulations with traditional methods or other forms of simulation education, especially in mental health nursing.

6. Recommendations

Based on the findings of this review, several recommendations are proposed for future research and practice. Given the positive impact of Standardised Patient (SP) simulations on students' clinical skills, confidence, competency, knowledge, and communication skills, it is strongly recommended that SP-based simulations be integrated more comprehensively into mental health nursing education. This approach provides students with a non-threatening environment for skill practice and offers tangible feedback on their performance.

Despite the positive outcomes observed, there is an urgent need for more robust, experimental research that investigates the impact of SP-based simulations on learning outcomes. Future studies should utilise larger sample sizes and validated assessment tools to provide more definitive evidence of the effectiveness of SP-based simulations. This will contribute to the body of knowledge and inform best practices in mental health nursing education.

The current review focused solely on undergraduate mental health nursing education, which highlights the need to broaden the scope of research. Future research should consider the impact of SP-based simulations in other types of healthcare education to provide a more comprehensive understanding of its effectiveness.

Moreover, future studies should focus on comparing the effectiveness of SP-based simulations with traditional methods or other forms of simulation education. This comparative approach will help to identify the most effective teaching methods for mental health nursing education and could lead to significant improvements in educational outcomes.

Given the scarcity of studies evaluating the impact of SP-based simulations in mental health nursing education, there is a need to explore the effects of SP simulations on a wider array of learning outcomes. This will provide a more comprehensive understanding of the benefits of SP-based simulations and could lead to more effective and engaging educational experiences for students.

Lastly, to avoid potential language bias and to ensure a comprehensive review of the literature, future reviews should consider including studies published in languages other than English. This will ensure that valuable contributions from other languages are not overlooked, thereby providing a more comprehensive and inclusive review of the literature.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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