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Simulated patients in a mental health occupational therapy course: A pilot
study.

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Abstract

Introduction: The use of simulated patients is well established in medicine and nursing. There is little research evaluating the use of simulated patients in occupational therapy education and none which focuses on mental health. This study sought to determine the acceptability and effectiveness of using simulated patients in a mental health occupational therapy course. The pilot also sought to address the challenge of providing simulation experience to a large number of students in a cost and time effective manner.

Method: Occupational therapy students participated in a simulation which involved an initial interview assessment with an actor portraying a person with a mental health diagnosis. The students worked in small groups for the simulation, rotating into the therapist role using a carousel model. Students completed a survey about their experience of the simulation.

Results: The students rated the simulation experience highly in terms of authenticity and learning outcomes. Qualitative analysis of open ended responses produced five themes, authentic experience, developing skills, feedback and reflection, we should do more of this, and developing the experience further.

Conclusion: The pilot was effective in allowing a large number of students to engage directly with the simulated patient without negatively impacting on the experience.

Introduction

Simulation is well established in medical education and is increasingly being employed in the education of nurses and other health professionals (Bradley 2006, Cant and Cooper 2009, Yeung et al 2013). Simulated patients are a widely employed simulation technique and their value in supporting development of clinical skills such as interviewing and assessment has been established in the medical and nursing literature (Becker et al 2006, Lane and Rollnick 2007, Brenner 2009). In addition, the value of simulated patients in addressing needs specific to preparation for mental health practice in these professions have been identified (Brown 2008, McNaughton et al 2008). There is however little research regarding the use of simulated patients in occupational therapy education (Bradley et al 2013) and no studies which specifically address their use in preparing occupational therapy students for mental health practice. This study begins to address the research gap by evaluating a pilot project involving the use of simulated patients in an occupational therapy course where the focus is on preparation for practice in mental health. The model employed for the simulations also sought to address the challenge of providing opportunities for large numbers of students to have direct interaction with the simulated patient in a time and cost effective manner.

Literature Review

Simulation is defined by Guise et al (2012) as,

‘a technique, device or activity that aims to authentically recreate, imitate or amplify characteristics, processes and experiences of the real world for the purposes of teaching, acquiring and assessing knowledge, skills and attitudes’.

Shortages of clinical placement opportunities and inconsistency in clinical experiences available on placement have been identified as key drivers for the increased use of simulation in health professional education (Bradley 2006, Brown and Williams 2009, Davis et al 2013). There have been moves to allow simulation to replace some of the clinical placement hours required by accrediting bodies (Valler-Jones et al 2011). Most authors however suggest that simulation experience should augment rather than be an alternative to learning in the clinical setting (Maran and Glavin 2003).

Simulation in health professional education includes a range of techniques and technologies which provide opportunities for developing different knowledge and skills. Bradley (2006) suggests four main categories; part-task trainers which are models that represent part of the human body; computer-based systems including multi-media programs and virtual reality systems; simulated patients and environments and integrated simulators. Simulation techniques are also categorised in terms of their fidelity, or the degree to which they match reality, with high fidelity being seen as providing more effective learning opportunities (Cant and Cooper 2009).

Considered to be high fidelity, standardised or simulated patients are a widely employed simulation technique (Robinson-Smith et al 2009, Shoemaker et al 2011). Standardised or simulated patients are real people, usually actors, who are trained to role play a patient problem in a clinically relevant and realistic way (Becker et al 2006). The terms simulated and standardised patient are used inconsistently in the literature. Some authors argue for a distinction in terms of the aim which in the case of simulated patients is authentic representation and for standardised patients is more about consistent representation across multiple student encounters (Bosek et al 2007, McNaughton et al 2008, Brenner et al 2009).

More commonly however the terms are used interchangeably. In this paper the term simulated patient will be used as it is considered by the authors to be more inclusive.

A large proportion of the existing literature about simulated patients relates to assessment of students (Hill et al 2010) however they have also been identified as useful in teaching clinical skills, specifically communication and interviewing skills in the context of patient assessment and education (Petracchi 1999, Becker et al 2006, Bradley 2006, Petracchi & Collins 2006, Bosek et al 2007, Brenner 2009). In a review of 23 studies comparing simulated patient encounters with other forms of teaching, Lane and Rollnick (2007) concluded that simulated patients led to improved communication skills when compared to other methods. Benefits of using simulated patients to teach such skills include the opportunity to practice in a relatively safe and controlled environment and the opportunity for feedback on performance (Becker et al 2006, Bosek et al 2007, Keltner et al 2011). Along with the benefits, a number of authors highlight challenges associated with the use of simulated patients such as demands on staff time and financial costs incurred in the training and employment of simulated patients, which make it difficult to provide large numbers of students with the opportunity to each have direct involvement (Hill et al 2010, Shoemaker et al 2011, Davis et al 2013).

A literature search identified six papers about the use of simulated patients in occupational therapy education, see table one for an overview of all six papers. Only two of the papers describe research examining the effectiveness of simulated patients as an educational strategy (Liu et al 1997, Lysaght and Bent 2005). Both of these studies compared the use of simulated patients with other modalities used to present case studies for the development of clinical reasoning skills. Lui et al (1997) compared the use of simulated patients with

videos of interviews with simulated patients while Lysaght and Bent (2005) compared four different modalities; printed text, video, live and CD-Rom/internet. In both of these studies the findings were inconclusive regarding the effectiveness of one modality over another in terms of acquisition of skills although student satisfaction was higher with the simulated patients.

Insert table one about here

Students' high regard for the value of experiences with simulated patients was a consistent finding across all of the papers that described their use in occupational therapy education. The papers reviewed described the use of simulated patients in a range of clinical scenarios (Lindstrom-Hazel and West-Frasier 2004, Shawler 2008, Velde et al 2009, Bradley et al 2013). Common themes in the student reflections reported included, valuing of the authenticity of the experience and the opportunity it provided for feedback, as well as a perception that it enhanced their learning, particularly in relation to their communication skills and their understanding of the impact of disability (Lindstrom-Hazel and West-Frasier 2004, Shawler 2008, Velde et al 2009, Bradley et al 2013). While the existing literature provides some grounds for the value of simulated patients in occupational therapy education, none specifically examine their use in preparation of students for mental health practice.

The role of simulated patients in preparation for mental health practice in nursing and medical education is somewhat more established. Keltner et al (2011) find the use of simulated psychiatric patients improves decision-making and problem solving skills of both students and health care providers, whilst avoiding risk to patients. Several authors discuss the value of simulation experiences in mental health nursing education, particularly in

overcoming anxiety about placement due to unfamiliarity with the setting and stigmatisation of mental disorders (Brown 2008, Robinson-Smith et al 2009, Kameg et al 2010, Davis et al 2013). There is however comparatively little research regarding use of standardised patients in preparing nurses for mental health practice (Guise et al 2012). Only two studies were identified in a literature search (Becker et al 2006, Robinson-Smith et al 2009). Only the study by Becker et al (2006) evaluated the simulation in terms of the student learning outcomes and these were found to be not significantly different to the usual means of teaching communication skills in that setting. However in both studies the students rated the simulation experiences as highly valuable (Becker et al 2006, Robinson-Smith et al 2009) . The acceptability and to a lesser degree effectiveness of simulated patients in psychiatric education of medical students has also been established (McNaughton et al 2008, Brenner 2009). Although there are some shared competencies between rehabilitation professions and medicine and nursing, Yeung et al (2013) suggest that sufficient differences exist to warrant targeted examination of role play simulation in the education of rehabilitation professionals.

The aim of this study therefore was to evaluate a pilot of simulated patients in a mental health occupational therapy course. The simulation activity was designed to provide all students with an opportunity to practice their clinical interview and assessment skills with a simulated patient in a time and cost effective manner. Specifically we sought to gain the students perspectives of the simulation experience and its effectiveness in meeting their learning needs.

Method

Study Design

This study employed a survey design to gather the perceptions of occupational therapy students regarding the use of acting students as simulated patients in a mental health occupational therapy course.

Participants

The participants were 60 occupational therapy students enrolled in the Bachelor of Occupational Therapy Degree programme at the University of Newcastle, NSW, Australia. Inclusion criteria for the study were, being enrolled in the second year mental health occupational therapy course and consenting to take part in the study. Ethics committee approval was gained from the University of Newcastle Human Research Ethics Committee, approval number H-2012-0170.

Instrumentation

Data was collected via an 18 item paper-based questionnaire. The survey was developed based on a literature review and an existing survey tool used to evaluate a simulation experience in pharmacy education at the University of Newcastle. The first four questions gathered demographic information. There were then ten questions which required students to rate their agreement with a series of statements about the simulation on a five point likert scale. The possible responses on the scale ranged from strongly disagree, though disagree, neutral, to agree and strongly agree. Finally students were asked to provide comments in response to four open ended questions.

Simulation Development

The course

The simulation took place in the mental health occupational therapy course which sits in the second year of the four-year Occupational Therapy Program. The course is structured around the occupational therapy process and there is a significant component of case-based learning. Case based learning which uses clinical case studies in the learning environment to simulate clients in clinical settings is widely used in health sciences education and is recognised as contributing to deep learning (Lysaght and Bent 2005). In previous years the case studies in this course had been paper based. The aims of introducing the simulated patients were to: develop the students' skills and confidence in interview and assessment skills, increase their confidence in engaging with people with mental illness, and provide more practical and engaging learning activities.

Preparation of occupational therapy students for the simulation

The students engaged in a number of activities to prepare them for the simulation experience. They were provided with referral information about their client and encouraged to research to increase their knowledge and understanding of the client's presenting illness, medications and associated side effects, and the clinical setting. They participated in a communication and interview skills session which included role play and observation, reflection, and feedback. The students also participated in a session in which they were introduced to a range of initial assessment tools which they reviewed and from which they selected the tool that would guide their interview during the simulation. Finally they had session where they were able to familiarise themselves with their chosen assessment tool and practice in preparation for the simulation.

Preparation and training of the simulated patients

The actors were drawn from students in a third-year acting course in Creative and Performing Arts at the University of Newcastle. Six acting students were selected to participate in the simulation. In order to enrol in this course, students had to have completed two prior acting courses. The focus of the third-year acting course is upon improvisation and character development. The young actors were mentored to use observation, structured improvisation, and critical reflection as key tools in the development of characters that could function fully, responding and interacting with the stimuli of 'real life' without seeming 'actorly' or 'dramatic'. Once the characters were 'under construction' the actors were given the case study information to integrate with their development process. There were two one hour training sessions with occupational therapy staff during which the actors were provided with background information and the opportunity to ask questions about their characters and their illnesses as well as the role of occupational therapy in mental health, the focus of the initial interview assessments, and the learning objectives for the occupational therapy students taking part in the simulations. All of the acting students preparation took place in the context of their acting course and was therefore unpaid. They were paid for the time involved in the actual simulation sessions with the occupational therapy students.

The simulation activity

The task for the occupational therapy students was to carry out an initial assessment interview with their client, implementing their newly learned interview skills and guided by their chosen initial assessment tool. There were four patient roles, each occupied by a different acting student (two of the roles were shared among two acting students). The simulations took place over two four hour blocks with two simulations happening

concurrently. Each of the simulations was facilitated by a member of occupational therapy staff and there was also a member of drama staff present to support the student actors. The occupational therapy students worked in small groups of between four and six. The room was set up such that there was a waiting room and two interview spaces. The interview spaces had two chairs, one for the client and one for the therapist. Behind the therapist chair in a semi-circle were chairs for the other occupational therapy students in the small group. The interview was conducted with the occupational therapy students taking turns in a carousel manner to adopt the role of the therapist in the interview. The students were able to call time out during which time the client suspended their role and the occupational therapy students were able to discuss how the interview was proceeding, make any plans for how it would continue and then change seats so that another student could adopt the therapist role. This continued with all of the students taking the therapist role for part of the interview.

Following the initial interview a debrief session was conducted with the occupational therapy students, the actor, and a member of staff. The actors provided the occupational therapy students with feedback regarding their character's experience of the interview session, and what aspects of the occupational therapy students' approach were more or less helpful. This discussion was facilitated by staff who also gave feedback based on their observations.

Assessment

The occupational therapy students were not assessed on their performance in the interview. The experience however informed two subsequent assessments. Based on their experience in the simulation each group gave a presentation in which they evaluated their

choice and implementation of the assessment and presented their findings. Each student then prepared a written report in which they selected one of the occupational issues identified in their initial assessment and formulated a plan for further assessment and intervention for this issue.

Data Collection

The survey was distributed in hard copy to all of the occupational therapy students who participated in the simulation by the administration staff in the School of Health Sciences. Boxes were provided in the school for students to return completed questionnaires which were anonymous.

Data Analysis

The first fourteen questions were analysed using descriptive statistics, showing frequencies of responses. The open ended questions were analysed using thematic analysis with the aid of NVivo software.

Results

Participants

There were 78 students enrolled in the course. With two groups running concurrently all 78 students had direct interaction with the simulated patients and engaged in feedback sessions in a total of eight hours. Completed surveys were returned by 60 of the 78 students enrolled in the course, representing a response rate of 76%. Most of the respondents were female, under 25 years of age and domestic students, which is reflective of the demographics of the students enrolled in the course. Demographics can be found in Table Two. The results of the quantitative and qualitative analysis are presented below.

Insert table two here

Quantitative Analysis Results

Frequencies for the ten questions that asked students to rate statements regarding their simulation experience are represented in figure one. There were two questions that asked the students to rate their perceptions regarding the authenticity of the experience. The majority of students (88%) either strongly agreed or agreed that the actors appeared to be authentic patients. Similarly most (77%) either strongly agreed or agreed that the whole experience with the simulated patients was 'real'.

The next group of statements related to how useful the students thought the simulation experience was. All but one of the students agreed or strongly agreed that they needed to have good communication skills to be a good occupational therapist. Only three reported that they were confident in their communication skills and only one believed that they could learn what they needed to about communication skills by reading text books. Most of the students (95%) believed that they had improved their communication skills through practicing talking with the simulated patients and a somewhat smaller majority (63%) reported feeling more confident about talking with people with mental illness after the experience.

The final three statements related to the inclusion of simulated patient experiences in the occupational therapy program. Most of the students (82%) either strongly agreed or agreed that they would like more opportunities in the program to practice with simulated patients. A majority (70%) also strongly agreed or agreed that this should happen whenever they were learning about skills or processes that involve interacting with patients. The responses

were much more evenly divided when it came to assessment with a slightly higher proportion of students who agreed (39%) than disagreed (30%) that the actors should be used in oral exams.

Insert figure one about here

Qualitative Analysis Results

Five themes emerged from the thematic analysis of the open response questions, (i) Authentic experience, (ii) Developing skills, (iii) Feedback and reflection, (iv) We should do more of this and (v) Developing the experience further.

i. Authentic Experience

Overwhelmingly the students described the experience as feeling 'real'. One student stated, 'It was real, it felt real, it was challenging.' Having the client portrayed by someone that they didn't know assisted with the authenticity of the experience,

'It was really helpful that we were able to practice with a person/actor who we didn't know in real life, as opposed to a classmate etc. because it added to the authenticity of the experience.'

Many of the students also commented on the believability of the actors' portrayal of their 'characters'. 'The client came across as a 'real' person with bipolar'. Because the simulated patient seemed to be 'real' to them the students described benefits in terms of gaining experience interacting with people with mental illness, 'I had not had any previous experience with someone with a mental illness, this was a great introduction.' They described gaining a better understanding of the impact of mental illness both through the content of the interview, 'It was valuable to hear from a person on how this disorder was affecting them', but also through their observations, 'observing how unsettled the patient was and what made her anxious or calmed her'. They described this learning not only

improving their understanding of the person with the mental illness but also of themselves, 'It helped me to learn what my own reaction was to a client exhibiting symptoms in a real setting'. The students suggested that the authenticity of the experience meant that they were more likely to act in a professional manner, 'The authenticity(sic) of the drama student's performance enabled me to act professionally – just like a real life situation'. Having experienced the actors as believable the students thought they had gained authentic experience of the clinical skills they were practicing,

'It gave me a good experience of what it would be like to conduct an initial assessment on a patient in a real mental health setting.'

ii. Developing Skills

The students described benefits of the simulation experience in terms of developing skills. There were a great many comments suggesting that the simulation experience was a, 'very effective way to learn interviewing skills'. Students described gaining a greater understanding of a range of skills involved in the initial interview process through their experience in the simulation including, 'understanding what communication is involved in an interview, both verbal and non-verbal', and related to this, 'reading body language', 'the importance of open ended questions use in comparison to closed yes or no questions', 'relate to the client without using technical language', and 'building a relationship'.

The students also described gaining skills in assessment. They discussed this in terms of their understanding of and ability to use the initial assessment tools that were provided, 'understanding the assessment tool better' and the opportunity to 'use the assessment tools realistically with someone other than our classmate'. In addition however they

described developing other skills necessary for assessment, specifically clinical observation, 'practice observing symptoms'.

The students valued the practical nature of the task, 'it was a great practical thing to do', and saw this as beneficial to their learning, 'doing is much more helpful than just reading about it'. The simulation was seen as helpful preparation for clinical placement, 'see areas of improvement that require attention before the clinical setting'. The students described the simulation as being an opportunity to practice in a safe environment. Although they described the actors' portrayal of the characters as realistic, knowing that the person was an actor, 'made it much less overwhelming than if it were a real patient'. Other aspects of the simulation that contributed to the sense of safety were working in a group and the fact that their performance in the interview was not marked, 'the idea that the therapist's performance is not marked is a good idea because it takes the pressure off the students'.

iii. Feedback and reflection

The students identified the opportunity to receive feedback from the actors as particularly helpful to their learning. The opportunity to receive feedback from this source was seen as 'unique' and something they were unlikely to experience otherwise, 'we were able to get feedback from the actor and how they felt, you would never get this on placement'. The students saw this feedback as helpful in their development of their own communication skills through increasing 'self-awareness of my communication skills, and flaws', and 'seeing what it is that I could learn to improve my skill'. They also saw it as helpful in developing their understanding of the use of the assessment tools through understanding how it was experienced by the patient, 'practice use of the assessment, insight into how the client felt it went'. As well as feedback the students described the value in using reflection during and

after the simulation experience to facilitate learning, 'reflecting on it we gained insight into what to do and what to avoid'.

iv. We should do more of this

There were a lot of comments from the students regarding how much they had enjoyed the simulation experience exemplified by the statement, 'It was fun and educational'. There were a large number of comments suggesting that the students would like more opportunities to participate in similar simulation experiences, 'It's a really good way to learn. I really want to do more of these in the future definitely.' There were several suggestions that it would be good to have another opportunity within the mental health course with various suggestions of how this might occur ranging from, 'it would be great to do a follow-up session' to 'more sessions with the patient actor that will allow us to provide an intervention'. While some students valued the learning opportunities provided by working in groups to conduct the assessment, 'to observe other people's skills', there were a number of comments to the effect that students would like to have more time with the simulated patient themselves, 'I would prefer one-on-one with myself and the client so I could do the whole assessment rather than just one five minute period and then watching'.

v. Developing the experience further

The students identified a number of ways in which the simulation experience could be improved ranging from the training of the actors, practical considerations and the provision of feedback. Suggestions regarding the preparation of the actors related to the actors' familiarity with the details of the case to facilitate consistency with the written case study information, within individual interviews and across different portrayals of the same client.

In addition there were suggestions regarding preparation of the actor to enable them to better meet the students' needs in the task such as, 'a better understanding of what occupational therapists do so they don't place so much emphasis on things that have nothing to do with us'. Practical issues that were identified largely related to the time and space allocated for the activity. Students thought it would be better to have longer time allocated for conducting the interview, 'more time with the client', and also for the use of time out with one student suggesting, 'perhaps we could have a half time break where we re-group for ten minutes to work out better strategies and re-align our series of questions'. There were also suggestions that more time be allocated for the feedback. There were also suggestions for more individualised feedback and more structure around this such as the use of, 'prompt sheets which the actor can fill out for the therapists'.

Discussion

This study surveyed the perceptions of second year occupational therapy students regarding the use of acting students as simulated patients in a mental health occupational therapy course. The student responses both in the quantitative ratings and in their comments in the open ended questions indicated a high level of satisfaction with the use of simulated patients in a learning activity. This finding is consistent with other research on students' perceptions of simulated patients in occupational therapy and other health profession education (Liu et al 1997, Becker et al 2006, Robinson-Smith et al 2009).

The students' comments indicated that they felt that the simulation was very authentic which assisted their engagement and learning. As per the findings of other studies the students identified not knowing the actor taking the part of the simulated patient increased the fidelity (Bosek et al 2007). The students generally thought that the actors were

believable in their portrayal of the patient role which would indicate that the selection and training of the actors was effective. There were some comments regarding the set-up of the environment which will be modified to assist the fidelity of the experience in future.

Bradley(2006) suggests that making the environment in which the simulation takes place as realistic as possible could be expected to increase the learners' engagement with the simulation and enhance the suspension of disbelief.

The carousel structure of the session, with each student in a group of six taking turns to step into the role of the therapist did not appear to interfere greatly with the fidelity of the experience. While some students suggested they would like more time with the simulated patient many identified positive aspects of this structure including peer support and the opportunity to learn from others. These findings are significant in that the carousel model facilitated the opportunity for a large number of students (78) to have direct interaction with the simulated patient in a relatively short amount of time. The use of acting students who were trained in the context of a course they were already studying at university and the efficiency of the carousel model effectively addressed the challenges of staff time and financial commitment usually associated with the use of simulated patients (Hill et al 2010, Davis et al 2013).

The students reported positive learning outcomes from the experience. Most commonly they described improved skills and confidence in their communication and interview skills and assessment which were consistent with the aims of the simulation and common with findings of other studies (Robinson-Smith et al 2009, Shoemaker et al 2011). The authenticity of the actors' portrayal enabled the students to feel they had gained a greater understanding of the impact of mental illness. This finding is consistent with that of

Lindstrom-Hazel and West-Frazier (2004) and Velde et al (2009). While the fidelity of the experience was identified as helpful to their learning the students also identified the sense of a safe environment for practice as conducive to their learning. This sense of safety came in part from knowing that the patient was an actor rather than a real patient and also from the fact that they were not being assessed on their performance. In their review Hill et al (2010) found that standardised patients support students in their learning in an environment that is safe and less embarrassing, stressful, and anxiety provoking for the students.

The students also identified the opportunity to receive feedback from the actors regarding their communication and interview skills as beneficial to their learning. Issenberg et al (2005) in their systematic review of features and uses of simulation that lead to effective learning found that feedback was the most important feature of simulation based medical education. The immediacy and source of this feedback in particular has been identified as a unique and invaluable part of learning with simulated patients (Becker et al 2006). While the students largely found this feedback valuable there is scope for improving the way this part of the experience is conducted. In particular, more time will be allocated for feedback in future and, as recommended by the findings of the review by Hill et al (2010), the actors will be provided with extra training regarding their provision of feedback to the occupational therapy students.

Limitations

This study is limited in that it is an evaluation of a single pilot intervention on one site with no comparison intervention or control group. In addition the effectiveness of the intervention is gauged only through the survey responses of students rather than any

objective assessment. Further research across more contexts and with more objective outcome measures is needed to establish the effectiveness of this simulation model.

Conclusion

The response of students who took part in this simulation were overwhelmingly positive both in terms of the acceptability and perceived effectiveness of the simulation in addressing their learning needs. The implementation of the carousel model which allowed a large number of students to have direct interaction with the simulated patients in a relatively short timeframe did not appear to impact negatively on the fidelity of the experience and in fact students identified advantages of this approach in terms of support and peer learning.

Key Findings

- I. Students reported developing skills and confidence in interview and assessment.
- II. The carousel model allowed a large number of students to engage directly with the simulated patient.

What the study has added

This study provides a model for supporting large numbers of students to engage with simulated patients and shows potential value in preparing occupational therapy students for mental health practice.

Acknowledgements

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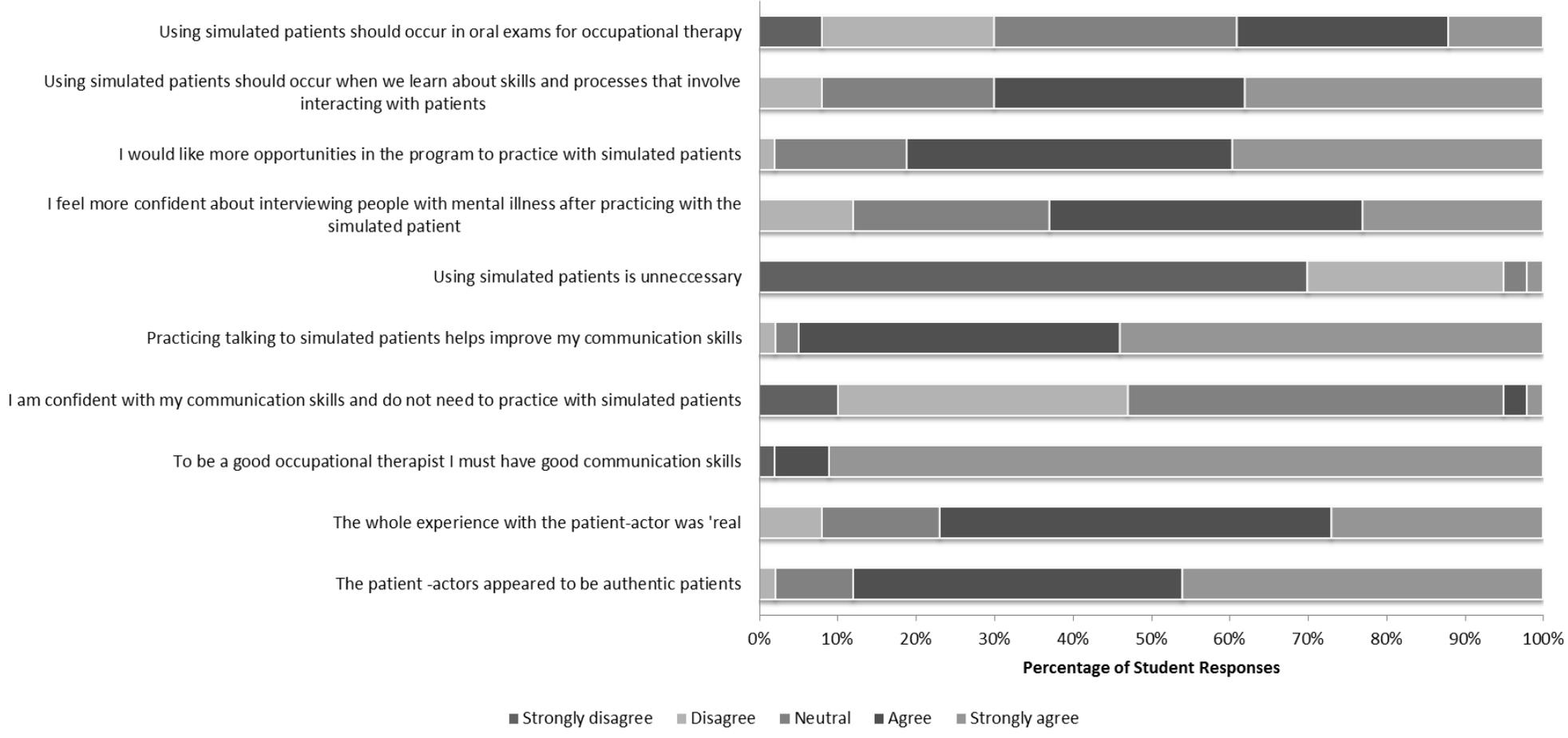
Table One: Papers describing simulated or standardised patients in occupational therapy education

Reference	Country	Aim/Purpose	Methodology	Participants	Simulation Activity	Findings
Bradley, Whittingham and Mottram (2013)	United Kingdom	Analysis of simulation activity in a pre-registration occupational therapy program	Analysis of student and staff reflections.	Final year undergraduate occupational therapy students	Role play of assessment scenario around readiness for discharge from hospital or safety to return home. Two students role played therapist with faculty role playing the patient.	Reported positive response from students. Environmental props that increased fidelity seen as beneficial. Suggestion that unknown people playing patient would have improved learning experience. Only a few of the students occupied role of therapist.
Lindstrom-Hazel and West-Frazier (2004)	USA	Analysis of simulation in a pre-registration occupational therapy program	Analysis of tutor and fieldwork supervisors comments and students' program evaluation.	n=274 Pre-registration occupational therapy students	Variety of simulations with actors portraying patients, clients, family members or other team members in context of problem-based learning.	Fieldwork supervisors reported students were more able to see client perspective, more independent in their learning and able to use feedback. Students valued the experience and believed it enhanced their learning.
Liu, Schneider and Miyazaki (1997)	Canada	To determine the effectiveness of using simulated patients compared with video of simulated patients to teach clinical skills.	Randomised controlled trial	n=73 Pre-registration occupational and physical therapy students	Students completed a database on a case study client presented via a simulated patient or video - taped simulated patient. Problem and treatment plans were compared across the two. Students also completed an attitude assessment form and group content rating form.	Comparison of clinical skills across the two conditions was inconclusive. For both case scenarios the students satisfaction with the group process and content were higher with the simulated patient compared to the videotaped simulated patient.
Lysaught and Bent (2005)	Canada	To compare different methods of case presentation in a course designed to develop clinical reasoning.	Mixed methods, instructor reflective diary, student responses via survey, rating of assignments.	n=39 Pre-registration masters occupational therapy students.	Students were presented with a clinical reasoning case study assignment. Four different modalities were used to present the cases: printed text, video, live, and CD-rom/Internet. Sequence of case modalities was randomised across the semester with two examples of each modality used with each cohort of students.	The modality used was less influential than the instructional format and type and amount of information provided. Challenges with live cases appeared largely due to use of real clients concluded that the use of simulated patients in future would overcome many of these challenges.
Shoemaker, Beasley, Cooper, Perkins, Smith and Swank (2011)	USA	To describe a method used to maximise number of students able to directly participate in a simulation activity for interprofessional education.	Analysis of peer and self-evaluations by students and transcription of group debriefing session.	n=64 pre-registration occupational therapy and physical therapy students	Simulation was around the care of patients with severe burns in the intensive care setting. Used six standardised patients representing three cases. Employed a scheduling system that allowed for all students to take role of clinician, peer reviewer and participate in debrief including feedback from the standardised patient.	Much of the discussion focused on aspects of interprofessional working and practical skills associated with managing burns. Concluded that the scheduling system was effective in facilitating large numbers of students having direct involvement and simulation was seen as effective in developing and evaluating the students' communication.
Velde, Lane and Clay (2009)	USA	To describe the use of standardised patients in an occupational therapy course and the responses of students to this experience.	urvey of students following the experience.	n=23 pre-registration occupational therapy students.	Students worked in dyads, taking turns at role playing the therapist and being peer observer. Students conducted three sessions with the SPs, initial interview, assessment and intervention. Case was an ergonomic case in an office setting. Students were assessed on written reports based on these.	Thematic analysis of student comments showed students saw the simulation as high fidelity, valued the feedback opportunities and provided suggestions for improvement of the experience.

Table Two: Participant Demographics

N=60 (Response rate 76%)		
	n	%
Gender		
Male	13	22
Female	47	78
Age		
<20 years	7	12
20-25 years	40	67
25-30 years	5	8
31-40 years	5	8
>40 years	3	5
Domestic or international student		
Domestic	55	92
International	5	8
Previous work experience in mental health		
Yes	5	8
No	55	92

Figure One: Student Perceptions of the Simulation



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