Consequences in mental well-being for actors simulating patients in communication skills training: The role of communication style, patient roles, and protective strategies

Doctoral thesis at the Medical University of Vienna for obtaining the academic degree

Doctor of Medical Science

Submitted by

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DECLARATION

I declare that this thesis is my original work. This thesis was written by myself and the work of other researchers was cited as such.

It was important to me to guarantee English readers the understanding of my first-author publication: “Ärztliches Gesprächsführungstraining in simulierten Situationen: Wahrnehmungen und Empfindungen von Simulationspatienten bei patientenzentrierter Gesprächsführung” which was publicized in German language. Hence, I decided to translate parts of the publication and insert these parts in the thesis. All parts in the text in which translations were inserted are identified as translations from the first-author publication. The first-author publication contains direct citations in German language. In order to ensure accurate citations, the German statements in the interviews were inserted as direct quotes and included in English language. The German language publication is attached in the appendix.

My first supervisor was Prof. Dr.-med. Anita Holzinger from the Teaching Centre of the Medical University of Vienna. The second and third supervisors were senior lecturer Dr. Michaela Wagner-Menghin, Teaching Centre of the Medical University of Vienna and Prof. Dr.-med. Martin Scherer, Department of General Practice / Primary Care, Hamburg Eppendorf.
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ABSTRACT

Background: Simulation patients (SPs) are actors or lay actors portraying patient roles for communication skills training in medical studies. Undergraduates learn how to handle challenging situations in doctor-patient communication in roleplay with SPs. SPs portray patient roles in a standardized way, and some roles are emotionally distressing. The aims of the study are to explore the consequences of distressing patient portrayal on SPs mental well-being, and to ascertain the benefit of two distinct protective strategies. One strategy is the use of transition techniques. SPs apply them in order to exit the patient role after patient portrayal. The other strategy is used by students and is referred to as “patient-centred communication” and entails an empathic and trustful communication style.

Method: A multimethod design, including interviews and questionnaires, was chosen to address the aims of the study. In interviews, the SPs were asked in detail about emotions and perceptions in extreme situations in roleplay and about their behaviour after those situations. The questionnaire enquired about the kind of distressing roles that were portrayed. Mental health scores were collected by use of the BSI-18 in the categories depressivity, somatization, and anxiety. Finally, SPs were asked about the use of transition techniques.

Results: SPs report similar emotions and perceptions as patients do if they perceive patient-centred communication or the lack of it. However, there was no statistically significant connection between distressing role portrayal and reduced mental well-being over one season. Furthermore, transition techniques were identified and categorized for the first time. There were positive correlations between the use of distancing techniques and mental health scores indicate that SPs with higher symptoms use them.

Discussion: Patient-centred communication leads to positive emotions and perceptions in both SPs and patients. The reactions of SPs can therefore be said to be as authentic as in real patients. Moreover, patient-centredness might reduce stress and, furthermore, be just as much a health-promoting factor for SPs as it is for patients. However, it is a positive result for SPs and the universities they work with that SPs do not suffer from reduced mental well-being because of emotionally distressing patient portrayal. In fact, the study ought to be replicated with a greater sample of SPs portraying emotionally distressing roles. Our findings suggest that the more experienced SPs in particular are able to portray emotionally distressing roles. One condition is that SPs should not suffer from the portrayed symptoms themselves. Otherwise the benefit of higher resilience of SPs compared to patients would not apply. Transition techniques are widely used as a health-promoting strategy. Distancing techniques in particular are used if SP experience reduced mental well-being. A long-term study should focus on the effect of transition techniques over time.
ZUSAMMENFASSUNG


PUBLICATIONS ARISING FROM THIS THESIS

ABBREVIATIONS

SP: Simulation patient
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Finally, I would like to thank the SPs who participated in the research for this thesis. The SPs were very open in the interviews and shared their personal stories about the emotions and perceptions in the life of an SP and a large number of SPs completed the online questionnaire used in this study.
CHAPTER ONE: INTRODUCTION

1.1 The concept of simulation patients

In 2018, a total of 408,540 students graduated in medicine at universities in the industrial world (1). Their communication skills training was commonly undertaken by using professional actors simulating real patients (2-5). In the German-speaking world 88.4 per cent of universities teach communication skills with SPs in medical studies (6). This approach allows students to practise patient communication regarding anamnesis and diagnosis, how to treat psychiatric patients and deliver bad news to patients and their families. While this method has vast advantages in preparing medical practitioners for their difficult tasks, the question of whether the actors end up being affected by their own distressing roles has hitherto not been adequately addressed. Whilst previous qualitative studies indicate that such stressful role simulations have deleterious effects on actors (7-9), the issue of reduced mental well-being associated with distressing role portrayal and protective factors for SPs has yet to be studied in more detail. Given that simulation patients are so pivotal for medical education there is an urgent need to determine how safe this activity is for participating actors and whether there might be an efficient way to minimize any harmful effects on them and find protective factors.

1.1.1 Definitions of simulation patients in medical education

To start off, it is important to clarify that simulation patients are not healthy people pretending to be ill in an attempt to gain access to healthcare or attract attention. They are actors or lay actors who are trained to portray patient roles for medical education (10). In the field of medical education, there are two distinct definitions of the term “simulation patient” that are used in the literature given by Barrows and Adamo, respectively. Barrows made a distinction in the definition of the terms “simulation patient”, a person who is trained to portray patient roles, and “standardized patient”, an umbrella term for both real patients portraying their illness as well as actors playing the role of a patient (2, 10, 11). Later, Adamo suggested a different definition and described a “simulation patient” as a person who is hired to join classroom sessions for educational purposes and provide information about a pretended disease. A “standardized patient”, from the viewpoint of Adamo, is someone who verbally and behaviourally responds to student questions and examination in a consistent way (12). Adamo was supported by Bokken in the former’s definition of the “standardized patient” because the term “standardized” literally stands for the consistent and regulated task of portraying patients (13, 14). Hence, an important advantage in the use of SPs is the possibility to display standardized behaviour for
educational purposes (2, 10, 11) because SPs can be trained to cover the defined subjects of learning targets in medical studies through roleplay. Additionally, standardization increases the validity and reliability of assessment (10, 11, 15) and leads to comparable conditions for students in assessment.

However, in this thesis an “SP” is understood as somebody who is trained to portray patients as defined by Barrows. The term “standardized patient” is used with no abbreviation and denotes the more specific definition of a person who has been trained in specific behaviour as suggested by Adamo.

Another definition similar to SP is the “practical instructor”, a person on whom students practise skills in pelvic or genitorectal examination, and who merely serve as living anatomy without playing a particular role (5). Persons who play patients for a videotape and follow a predefined script are referred to as “actors” (2)

1.1.2 Then and now – simulation patients in medical education

A major component in medical studies is the education and assessment of students in their interaction with patients. Whilst patients with physical conditions usually report their issues without great deviation, experience has shown that those with neurological problems often alter their stories, attitudes, and complaints between examination sessions to the point that student assessments are no longer accurate (16). Hence, in order to eliminate the discrepancy in patient responsiveness, educators have come up with the idea of hiring trained actors capable of simulating the cases of real patients, with regard to both the data they disclose and the attitude they exhibit. The employment of simulation patients for the purpose of medical education was mentioned for the first time by Howard S. Barrows and Stephen Abrahamson in 1964. They called the actor who portrayed a patient “the programmed patient” (16) and defined it as follows: “The ‘programmed patient’ involves the simulation of disease by a normal person who is trained to assume and present, in examination, the history and neurological findings of an actual patient in the manner of an actual patient. This person is then used as the subject for clinical testing of student performance” (16) (p.803). This concept was originally developed for the field of neurology (16).

Barrows and Abrahamson then set out to describe their very first steps to find a patient case suitable for simulation. Initially, they searched for a patient who was well-suited for teaching because of relevant neurological symptoms that can be simulated (16). They found a female patient and documented her symptoms and behaviour, whereupon this record was reviewed in detail. The actress was present when the real patient was interviewed in order to see how she answered the questions and reproduce the patient’s behaviour and the manifestation of
her symptoms (16). The actress learned to portray the patient and, in the first assessment with a programmed patient, students had to interview the actress. They were given 30 minutes for this interview and the assignment was to diagnose the present illness, neurological symptoms, past episodes, and family history, and to conduct a neurological examination (16). Four years later (1968), Barrows published his second article on this topic. By then, he was applying the concept of the programmed patient not only in assessment but also for teaching and introduced the concept to several other areas of medicine (17). He used actors not only to simulate neurological issues but also anatomical conditions, and also produced instructional videos. At this point Barrows used the term “simulation patient” (SP) for the first time (17).

Today, the use of SPs enjoys great popularity. SPs are in use at universities around the world, such as, for example, in the United States of America (17, 18) and Canada (19) in North America, in the Netherlands (20), Great Britain (21, 22), Germany (23-25) and Austria (26) in Europe, in Zimbabwe (27) in Africa, in China (28) and Iran (29) in Asia, and in Brazil (30) in South America. The range of disciplines in which SPs are used for teaching communication skills is as broad as their use around the globe. They are involved in multiple disciplines such as pharmacy (31), in undergraduate studies of medicine (10, 32-36), in the field of psychiatry (5, 25, 37-40), oncology (41), surgery (28), dentistry (42) but also in nursing (43-45) and several fields of advanced medical training for doctors (46-48).

1.1.3 SP in communication skills training in the European German speaking world: Austria, Germany and Switzerland

The first universities in the German-speaking world in Europe began using SPs as early as the 1980s. Then, from 2000 onward, medical education with SPs became common. Today, at least 84.4 per cent of medical faculties train medical communication skills with SPs (49), and communication skills training with SPs is the most frequent teaching method (6). Each year, SPs are in use for 1,290 operating hours on average at the faculties in the German-speaking world. (49). The SPs work at all faculties with a focus on doctor-patient communication, and in 79 per cent of faculties, they are used to train communication with patients’ relatives. The most frequent areas of medicine where SPs are in use are psychosomatic and internal medicine (both at 58 per cent), medical sociology and psychology (each at 50 per cent) and psychiatry as well as surgery (each at 47 per cent). SPs are widely used in medical education, yet only 21 per cent of faculties use SPs for assessment (49).

In Vienna, the “Schauspiel-PatientInnen Programm” (“Actor-Patient Programme”) was founded in 2005 by Prof. Lenz for the study of psychiatry. He started with three SPs who were professional actors and they studied the characteristics of the patients they were supposed to
portray for more than two decades. Today, all 37 SPs of the Medical University of Vienna are professional actors. Every SP is trained to play every patient role and they are employed for 35 to 42 lessons per year. One lesson is between 90 and 120 minutes and each role portrayal lasts up to 20 minutes per lecture. In each SP season, the SPs complete up to 400 roleplays. SPs portray distressing and non-distressing patient roles. The distressing roles are difficult and intense at an emotional level and form part of communication skills training in psychiatry or includes reporting bad news (7). Non-distressing roles are less challenging at an emotional level and deal rather with physical conditions. Table 1 lists all emotionally distressing and non-distressing patient roles of the Medical University of Vienna.

<table>
<thead>
<tr>
<th>Tab. 1 Distressing and non-distressing patient roles in communication skills training in medical studies at the Medical University of Vienna</th>
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<tbody>
<tr>
<td>Non-distressing patient roles</td>
</tr>
<tr>
<td>Swollen Lymphokine</td>
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<tr>
<td>Patient with dementia</td>
</tr>
<tr>
<td>Chest pain (heart attack)</td>
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<tr>
<td>The demanding patient</td>
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<td>Communication-impaired patient (hearing loss)</td>
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The table shows that the SPs in Vienna are mostly used for emotionally distressing patient roles. The differentiation will become more noticeable at a later stage in this paper because, as mentioned above, this thesis explores triggering and protective factors for the emotional well-being of SPs. Factors impacting SPs’ emotional state may include all performed patient roles, but particularly the distressing patient roles. A closer look at SPs’ strategies for familiarizing themselves with the required performance as SP is intriguing.

1.1.4 A characteristic communication skills training with SPs

Before SPs can be used in communication skills training, they have to be cast and trained to portray a patient role (50). They have to internalize certain facts, including, for example, names and ages of family members, family history, symptoms, and their own medical history (51). The
amount of training depends on the complexity of the patient role. The verbal expressions of the SPs are important, as are their nonverbal expressions (29). Body language makes some symptoms visible before the patient even mentions them. It is essential to show the distinct forms of body language of a patient with anxiety disorder, a healthy relative, and a patient with chronic pain, respectively, to present students with an integrated picture of patients and their symptoms.

After the education of SPs, the education of medical students can occur. In the German-speaking world, there are a number of principles concerning the involvement of SPs in medical communication skills studies that are broadly used (6). In the German-speaking world, 88.4 per cent of communication skills are taught with SPs. The content of communication skills is guided by a catalogue of educational objectives (Basler Consensus statement or Nationaler Kompetenzbasierter Lernzielkatalog Medizin) (6). More than 80 per cent of the medical faculties in the German-speaking world have the main focus of communication skills training in the second and third year of study. Additionally, 38 per cent of these faculties report the occurrence of additional communication skills training in the sixth year of study. Communication skills are taught in up to three different formats. In lectures in large groups for the plain communication of knowledge, in seminars with up to 20 participants, and in small group formats for practical skills training (6).

Usually, in the small group formats, students form groups of three persons and one SP. One student conducts an anamnesis, and the talk is recorded on video. Subsequently, this student reports about his or her impression of the talk. Then the SP gives a feedback to the student and finally the two observing students add their final feedback. In the next lecture, the video is watched in the classroom and the whole group of students and the lecturer have the opportunity to give additional feedback (35).

1.2 The significance of simulation patients in medical education

Today, the use of SPs in medical education and assessment is still a matter of controversy. There are substantial efforts to pay, cast, select, train and use actors for educational purposes (6, 52). While some authors question the efficacy of SPs concerning the use in education and the related learning outcomes (53, 54), others are enthusiastic about the advantages of using SPs (2, 4, 7). In order to better assess this question, (i) the benefits and limitations of SPs in communication skills studies in general, (ii) the learning outcomes in distinct fields of medical communication and (iii) the fields where the use of SPs is empirically validated are discussed in more detail in the following.
1.2.1 Benefits and Limitations of using SPs in communication skills training and assessment

1.2.1.1 The benefits in the use of SP

Students generally appreciate the contact with SPs (55), stating as one reason the safety such a study method entails. The environment guaranteed by SPs gives students the opportunity to acquire communication skills without having to fear burdening patients as a result of mistakes in conversation (17). In class, the patient’s diseases can be discussed with and in front of the patient (17). Therefore, the patient’s perspective is represented directly in the lecture. SPs represent a perfectly standardized patient concerning symptomatology, availability and timing (17). All typical aspects of diseases can be presented (17, 56) at the best point of time during the semester (4, 56), and the portrayal can be adjusted to the specific level of knowledge of students (10). If necessary, the patient portrayal can be repeated several times (2, 10, 11, 17). After the session between SP and student, the SPs give feedback about the performance from the patient perspective (10, 11, 14). To broaden the experiences of students, SPs play a high variability of patient roles (4). One important aspect is that the assessment with SPs is reliable and valid (34) because the standardization leads to comparable situations for examiner and examinees (4). The SPs are more resilient than patients (17, 56) and situations can be taught in which it would not be appropriate to use a real patient (10, 56). Next, the most important aspects of using SPs are pointed out.

Safe learning environment:

The safe learning environment is important for students, but also for patients. The scenario in which the “patient” receives a palliative diagnosis and the course can discuss the situation with the SP is unique and is made possible only through the use of SPs. The students can exercise difficult situations like delivering a palliative diagnosis in a safe setting and discuss difficulties and uncertainties in front of the patient and with the patient (11, 17, 57). This provides educational opportunities unthinkable without SPs. In situations in which students have to face their own emotions and strong emotions of patients, the safe learning environment is particularly valuable.

Feedback:

Additionally, SPs give feedback from the view of the patient (10, 11, 14). In medical education, feedback is defined as: “specific information presented to a learner to promote reflection on performance. It focuses on both what was done and what the consequences of the action might be. The ultimate goal is to help learners in establishing their own goals and critiquing their own performance” (58; p. 470). SPs are trained to give appropriate and helpful feedback (14). To make sure that students have a safe learning environment, it is recommended that
the substance of feedback refers to the defined learning targets. The students should begin with a self-evaluation. The SP feedback should be descriptive and specific, focus on behaviour that is observable, be subjective, brief, and provided directly after performance (14).

Although there are clear standards recommended for feedback, Bokken shows large heterogeneity, a lack of clear standards in practice and of scientific sophistication in SPs providing feedback to undergraduate students (14). Obviously, this is problematic seeing as feedback is the substantial source for students to obtain information about their performance (58). Although SPs do receive training in giving feedback to students, it is only a small amount of their total training. The main part of training for SPs is that of patient portrayal (14).

Training of patient portrayal:

One benefit of SPs is that they can be trained to portray a broad variety of different scenarios in medicine (2). There are different suggestions concerning the amount of training SPs require. Barrows reports training times of only two to three hours per patient role in total (2). Studies addressing the appropriate amount of role training are not available (59). One study developed a questionnaire for SPs enquiring about the process of learning how to report the family history accurately. The authors attach great importance to the training of SPs for giving appropriate answers about family history of patients, but the authors do not include any recommendations for the proper amount of training for SPs (51). In fact, the more roles SPs have to play and the more complex these roles are, the more training is needed for a good performance (10, 22).

The amount of training may also depend on the professionalism of SPs. At some universities, SPs are peers, others use lay actors and at some universities, the SPs are professional actors who have received professional drama training and hold an acting certificate (10). Professional actors may need less training for a good performance than peers or lay actors. The preference of professionals compared to lay actors is ambiguous. Kleinman found that lay actors have better interpersonal skills than peers (60), while Papadakis found that students rated the experience with professional actors higher than with lay actors but found no difference in the outcome of learning skills (61). One study compared professional actors and lay actors who were trained together and found no differences in the performance of a role of medium difficulty (62).

However, the training of patient performance is relevant to guarantee the authenticity of the role portrayal. There are several studies addressing the question of authenticity of the patient portrayal by SPs compared to real patients (11, 39, 63-65).

Authenticity of the patient portrayal in medical education:

Wündrich defines SPs’ authenticity by the impossibility to distinguish SPs from real patients. In order to determine the authenticity of SPs, she recorded videos of conversations between
psychiatric patients and doctors as well as between SPs playing psychiatric patients and doctors. Then, psychiatrists had to distinguish SPs in psychiatric roles from real psychiatric patients (39). The experienced psychiatrists were in most cases unable to detect the SPs, but the percentage of detection varied between the specific psychiatric disorders portrayed. The SPs who portrayed borderline disorder were detected in 38.5 per cent of cases, whereas the portrayal of the schizophrenic patient was detected in only 3.7 per cent. Once again, the study revealed an advantage of SPs: the psychiatrists rated the cases of SPs as typical cases catchy for students and the symptoms as obvious for students (39). The authors suggest typical patient cases and sufficient training in order for SPs to portray the roles authentically in the field of psychiatry (39).

In a study done by Haracz, students rated the performance of SPs in psychiatry as authentic and reported they felt the portrayal was “real” (63). In a systematic review, Eckel found reports of a high level of authenticity of SPs in 13 studies and reports of low authenticity in 3 studies (40). One of the studies reporting high authenticity of SPs was conducted by Wündrich, again. In this study, lecturers reported that they were surprised by the high level of authenticity of the SPs (38). However, authenticity seems to be more than just the (in)ability by observers to distinguish SPs from real patients. Authenticity must be perceived primarily by the student who is in contact with the SP. Carl Rogers defines authenticity in communication as the will to be sincere and truthful as a person; when communication is real and open this leads to congruence in the relationship (66). Hanna also refers to the question of authenticity in the simulated relationship between student and SP. He asserts that students learn to simulate good relationships with patients and do not simply train to enter into an authentic relationship because the examiners in assessment have to observe the good relationship (65). Again, the authors do not define authenticity. Generally, then, the authenticity of the setting of SPs is questioned because the power between a student in an assessment setting and the SP is not equivalent to the distribution of power between doctor and patient (65). Students are under the pressure of the examination and depend on the SP, while, conversely, patients depend on their doctors and their treatment. Another point of questionable authenticity in communication skills training is empathy (64). Critics mention that students only learn how to display visible characteristics of empathic communication without truly relating to patients (64, 65). In fact, empathy is only perceivable between the two persons in communication, and these two persons are the same who can assess the quality of empathy and relation in roleplay: the student and the SP. That is one reason why SPs are subsequently involved in the evaluation of students and give feedback about their perceived empathy in communication (10, 14). However, the amount of training and the grade of professionalism may also influence the authenticity of patient portrayal. Usually, SPs portray a broad variety of roles that differ in complexity. In particular, distressing roles that include strong emotions are difficult to portray and need to be trained thoroughly to be perceived as authentic.
One aspect concerning authenticity has found no attention to date. Namely, the feedback of SPs depends on the emotions and perceptions of SPs and not on that of patients. This point is crucial because the source of students’ learning experience is the SPs’ feedback (58). There is an underlying assumption that the emotions and perceptions of SPs in the lecture are similar to the patient’s emotions and perceptions during the consultation of the doctor. However, not a single study questions the authenticity of SPs’ emotions and perceptions as the basis of feedback.

**Acceptance of learning programmes with SPs:**

Students generally appreciate learning and assessment with SPs (34, 53). They prefer lectures with SPs compared to reading or typical lectures held by professors and, moreover, prefer professional SPs compared to students portraying patients (67). Another study found that students rate communication skills training with SPs as positive and in one instance even more favourable than with real patients: they prefer the safe learning environment that SPs provide (68). Wündrich found a high rate of acceptance of SPs by students after using SPs in psychiatry and psychotherapy. Students even described them as the highlight of the course (38). Coyle used SPs in psychotherapeutic education and also found high acceptance rates (37), and Nikendei found positive ratings of the use of SPs in psychosomatic clerkship by students (25).

**Protection of patients:**

Some advantages concern the safety of patients. The training of a number of learning targets in medical education would not be appropriate for patients (57). The use of SPs is essential in teaching and assessing emotionally complex situations with patients (22). Typical scenarios for emotionally complex situations include explaining a diagnostic, therapeutic or other medical error on the part of the doctor to a patient and their family (69), learning about ethical decision-making in dilemma situations (70) and specific patient roles in the theme “breaking bad news” (57), the latter of which comprises an important set of roles. The students learn to inform patients, for example, about a life-threatening diagnosis or the death of relatives (41, 48, 71). To imagine a real patient, say, in assessment or in front of a course of students, being informed about a relative who has unexpectedly died in hospital and subsequently being asked about the performance of the student seems rather inappropriate for obvious reasons. When an SP portrays the patient and the student’s performance is inadequate, the student has the chance to repeat delivering the news of a relative’s death, allowing for thorough practise in handling such a situation. The use of SPs for the benefit of protecting real patients is notably important in distressing situations in which strong emotions of patients and practitioners are expected.
Repetition of patient portrayal in assessment:

Modern assessment of medical skills is not possible without SPs to date. The essential advantage for assessment is the possibility repeating the performance (10, 11, 14, 17). Since 1975, the objective structured clinical examination (OSCE) is used for objective and valid assessment (13). Examinees rotate through different stations in a circumscribed area and have to demonstrate their skills in a practical or theoretical way (12, 13). SPs are part of one or more stations and repeat their patient portrayal for each student (12). For example, students start at station number one and have to interpret an x-ray image of a fractured ulna. In station number two, they have to explain to the anxious SP what was seen on the image and what consequences this may have. The use of SPs in OSCEs allows for a linear sequence of the different stations and the assessment of skills in a simulated environment that is close to doctors' real experiences. The assessment of recording a patient's medical history, the performance of a medical examination, and reading and informing the patient about laboratory results are just some examples of possible scenarios with SPs in the OSCE setting (12).

Another important scenario in OSCEs with standardized patients is the assessment of communication skills in a standardized way (5, 15, 72, 73). With the use of SPs, different tasks can be performed and used with high flexibility (12). Additionally, SPs give feedback to students and, at some universities, even evaluate the performance of students (10, 14, 74). Conversely, students rated SPs performance as “good” and “excellent” in a study about the acceptance of SPs in a psychiatry OSCE (55). However, this kind of assessment is only possible with repeatable patient cases portrayed by SPs or standardized patients. It would be inappropriate to use real patients in such a standardized type of examination or to use peers in assessment.

1.2.1.2 The limitations in the use of SPs

Nevertheless, there are limitations to the use of SPs. The simulation is never as authentic as the real patient (11). Especially the simulation of physical symptoms is limited (heart rate or palpation findings) (11). What is more, SPs cause high costs (10, 11), while their efficacy for learning outcomes is not yet clarified in detail. SPs may be more resilient than real patients, but patient portrayal can also have severe consequences for SPs themselves (7, 8, 75).

Physical symptoms:

SPs cannot simulate high blood sugar or high blood pressure. To measure real blood pressure would not be an authentic simulation. Besides this, the benefit for the learning outcome of measuring blood pressure as such is doubtful. That said, the SP-programmes have creative solutions for this limitation. Blood values, EEG-curves, and x-ray images of real patients are
provided to create a simulation environment that is as authentic as possible. In the UK, a cardiopulmonary patient simulator is used to simulate those scenarios SPs cannot simulate on their own (76). In combination with technical options, the limitation of the simulation of physical symptoms can be solved to some extent.

**Monetary aspects:**

The most serious argument against the use of SPs concerns the financial aspect. The use of SPs and the training for patient portrayal and feedback entails costs. High costs are perhaps the gravest disadvantage of SPs. Lane reports experiences and mentions costs of up to 200 pounds sterling (= 224 euros) per day for a trained and reliable SP (34). Ortwein calculates the price per student and concludes a sum of 19 euros per student for a lecture with SPs and 12.50 euros for assessment in the OSCE setting. The costs consist of the salary for employment in the lecture and for training of patient portrayal and feedback. The cost for employees who organize the simulation patient programme is not included in this calculation but must also be considered. Ortwein recommends one full-time position for handling the SP programme (56).

**Reduced mental well-being of SPs:**

Another limitation concerns the mental wellbeing of SPs. Several authors have found negative effects of patient portrayal on SPs (7-9, 75). It is assumed that the role portrayal of emotionally distressing patient roles may have a negative impact on SPs. This subject is discussed extensively in this thesis in chapter 1.3.

However, providing roleplay with SPs for skills training and assessment in health professions has more benefits than limitations – limitations which are accepted in order to benefit from the use of SPs nonetheless. The primary aim of using SPs still remains the learning outcome of students and professionals, but the corresponding results seem to be inconsistent in the literature.

1.2.2 Learning outcomes related to SPs in communication skills training

Although there are many benefits of the general use of SPs for medical education, the results of learning outcomes in communication skill training with SPs are inconsistent. Ultimately, the actual benefit SPs ought to have in medical education is a good learning outcome.

Indeed, there is evidence for the positive effect of SPs on achieving learning targets in communication skills training, including in special fields. One randomized controlled trial (RCT) shows that teaching communication skills in the field of violence prevention with SPs leads to a higher frequency of enquiry about domestic violence, a higher perceived comfort when
asking about violence, and more reliable identification and improved management of domestic violence (77). Another RCT provides further evidence in this regard. Rabin shows that training with SPs is effective in counselling of sexually transmitted diseases (78). Physicians trained in communication about HIV risks with SPs significantly more frequently asked about the use of condoms and risky sexual behaviour than physicians who were trained through didactic methods alone (79). In one study, students improved their interpersonal skills when they were taught in obstetrics and gynaecology with the use of SPs but did not display better technical skills compared to classes without SPs. In this study, students did not only communicate with the SPs, but SPs were also used as a model for a pelvic examination (60). Good learning outcomes were reported for a communication skills training programme called “Oncotalk”. The aim of the programme is to improve communication skills in breaking bad news for postgraduate oncologists. Indeed, the practitioners changed their behaviour after training and applied six new skills on average. For example, they made an empathic statement after delivering bad news or they asked for the patients’ reaction to the bad news (41). However, even though the programme included SPs, the authors of the study only present a comparison between the skills before and after the “Oncotalk” programme without including a comparison between “Oncotalk” with and without SPs. Ditton-Phare evaluates the communication skills programme “ComPsych”. This programme is especially developed for conveying diagnostic and prognostic information to schizophrenic patients. Based on the findings of her study, she argues in favour of the programme that runs with SPs and concludes that communication skills training in psychiatry increases some behaviours that are in line with patient-centred communication (80). Rimondini found that the communication style of psychiatric residents improved after training with SPs. She recorded videos of the residents’ performance before and after training which were subsequently rated by experts. The experts found that the training increased desirable skills (particularly emotion handling) and decreased undesirable verbal behaviour (closed-ended questions) (81).

By contrast, there are some studies showing no differences in learning outcomes between teaching communication with SPs and other interactive teaching methods. Zraick et al. did not find any differences between students who received lectures about speech-language pathology and those who additionally role-played with SPs portraying aphasia (53). One limitation of the study is the sample size of only 18 persons, 9 students per group, which is why the generalization of the results is questionable. In addition to this, Downar could not find differences between the exclusive application of didactic methods and didactic methods combined with roleplay with SPs concerning communication comfort and skills in first year internal medicine students (54). A comparison between roleplay with SPs and roleplay with peers in teaching smoking cessation shows no differences in skills, but the students in roleplay with SPs rated the practice exercise higher (61).
Lane and Rollnick criticize that some authors do not compare communication skills training with SPs to training without SPs (34), but instead only compare communication skills of residents before and after training to receive results about the efficacy of SPs, or compare training with SPs to usual didactic methods. To receive comprehensive results, communication skills training with SPs has to be compared with other interactive teaching methods (34).

In conclusion, some communication skills training with SPs seems to be beneficial for learning outcomes. Training of violence prevention (77) and counselling of sexually transmitted diseases (78) has been shown to be efficient. In the field of obstetrics and gynaecology, communication skills improved, while technical skills did not change compared to training without SPs (60). Communication skills training for breaking bad news for oncologists (“Oncotalk”) shows good outcomes (41), the conveying of diagnostic and prognostic information to schizophrenic patients (“ComPsych”) was shown to be efficient (80), and interview skills training for psychiatric residents (81) certainly has the potential to increase students’ communication skills. In other fields, the use of SPs is questionable: the SP-based training of speech-language pathology had no significant effect (53) and the training of communication skills in smoking cessation with SPs was not efficient compared to training with peers (61).

Overall, there is one fascinating difference between the effective and the ineffective use of SPs for learning outcomes in communication skills. Effective communication skill training includes dealing with strong emotions. Participants learn how to overcome their reluctance to communicate with patients directly and obtain a clear understanding of the patient’s concerns in cases where they expect strong emotions. Therefore, SPs are most suitable for portraying patient roles that include strong emotions.

1.2.3 Patient roles involving strong emotions: distressing patient roles

Communication skills training for medical students with the use of simulation patients has been empirically proven to result in good learning outcomes with regard to handling patients’ strong emotions. Therefore, SPs generally have to portray emotionally demanding patient roles. In the studies of medicine, those patient roles are mainly used in two fields: psychiatry (40) and “breaking bad news” (4).

SPs in the field of psychiatry:

It is common for SPs to portray psychiatric patients in medical studies and for other education purposes (40). The use of SPs in psychiatry spans a broad thematic range. SPs are in use for teaching and assessment, and participants include both undergraduates as well as
postgraduates (5, 15). The most frequent field of application is communication skills training. The second-most frequent is the training of anamnesis, followed by psychopathological assessment (40). The setting is still mainly orientated by that in psychiatric hospitals, although the ambulatory setting has gained more importance more recently (5). The patient roles differ widely because they are usually made to resemble real patients who actually exist(ed) and are selected as typical patients for specific mental diseases (2). Eckel conducted a systematic review about SPs in the educational field of psychiatry and listed the common patient roles that SPs portray. Eckel found the most frequent roles portrayed by SPs to be depressive patients. Some 27 studies confirm that SPs play patients with affective disorders, while 25 studies mention neurotic disorders, mainly anxiety disorders, and the same number of studies report somatoform disorders. Other patient roles include schizophrenic, schizotypal or delusional patients, patients with addictive behaviour, personality disorders, dementia, and eating disorders (40).

**Patient roles regarding “breaking bad news”:**

The skills for delivering bad news to patients are taught to undergraduate (82) as well as postgraduate students (83). For example, professionals have to tell a mother that her baby is stillborn or have to inform a family about a relative’s irreversible brain damage after an accident (57). Typical fields in which such skills for breaking bad news are essential include oncology, surgery for organ donations, various emergency settings, paediatrics, and obstetrics (41, 57, 84). Informing patients about a life-threatening diagnosis or the death of a relative is difficult and doctors require the utmost poise and confidence in such situations. Therefore, it is important to teach medical students the corresponding methods and techniques. Delivering bad news in a proper way is important, firstly, because of the news as such, and, secondly, because the specific manner of disclosure can be very aversive and stressful both for the patient (41) and the practitioner (85).

However, if the simulation of a situation during the classroom session is authentic and student and SP are emotionally involved in the roleplay, the situation will, similar to the real situation, be stressful for both. In the United States, it has been regarded common sense for decades that the portrayal of distressing patient roles has significant consequences for SPs (7).
1.3 Reduced well-being of SPs as a work-related result in medical communication skills training

Some authors assert that strong negative emotions may lead to reduced mental well-being for SPs (7-9, 75). However, SPs use protective strategies to reduce those negative effects (7, 86). The joint occurrence of factors reducing mental well-being and factors protecting and promoting mental well-being is a common principle described in a variety of contemporary models of mental health (87, 88).

The following section uses a general model of mental health (87) (see Fig. 1) to outline factors that are potentially related to SPs’ mental well-being. In this model, triggering conditions contribute to reduce mental well-being. Certain experiences, events or strain are examples of such triggering conditions. By contrast, protective and health-promoting factors like stable personal relationships and emotional stability increase mental well-being. The development of mental diseases furthermore depends on individual vulnerability like genetic predisposition and the occurrence of potential sustaining factors. Sustaining factors denote the maladaptive behaviour after the beginning of mental strain (87). However, the observation that not all SPs suffer from negative effects of patient portrayal may be explained by differences in those conditions which reduce or increase individual mental well-being.

Figure 1: The basic model of aetiology of mental disorders by Margraf

Thus, as SPs are a mentally healthy population, identifying triggering factors as well as exploring the protective factors is important for the protection of SPs from reduced mental well-being.
1.3.1 Students' communication style: triggering factor for positive and negative emotions of SPs in medical education

SPs report consensually that the communicative behaviour of students affects their emotions (9). In roleplay with SPs, students train to implement the communicative style that is taught in communication skills training (89). The patient-centred communication style, which is widely taught, is based on four different tiers. A good inter-personal relationship (90-93), congruent behaviour (91, 93), the acceptance of a patient’s perception, expectations, and explanatory models (92, 94), and empathically addressing the patient’s needs (94-96). Grayson-Sneed examined consistency regarding these aspects of patient-centred communication in a factor-analysis (96). Doctors who communicate in a patient-centred manner identify and integrate the patient’s illness-related beliefs, feelings, and expectations (97). If and when they do so, the outcomes for patients are positive (98, 99). So far, there are no studies which deal specifically with the outcomes of patient-centred communication for SPs. However, the outcomes for patients have been relatively well-studied and show the strength of this communicative style.

One reason why patient-centred communication increases the health of a patient is the link between patient-centred communication and patient adherence. One meta-analysis covered 109 studies about this topic. Patients of doctors who communicate well show a 19-per cent higher patient adherence than patients of doctors who communicate poorly. In addition, the authors of that study explored what effect doctors’ communication skills training has on patient adherence and found that all studies reported positive effects (100).

The superior patient adherence may be the result of higher patient satisfaction. The findings of studies which explore the connection between patient-centred communication and patient satisfaction are inconsistent, however (98, 99, 101). Some studies state that patients are more satisfied if doctors communicate in a patient-centred manner (98, 99). Swenson, then, confirms patients’ distinct preferences for communication styles. Older patients prefer a more biomedical, more directive style, but most participants favour a patient-centred communication style (102). Satisfaction is a pleasant feeling that results from the fulfilment of a need (103). In patient-centred consultation, the patient visits the doctor because of a need and the doctor reacts with a focus on the needs of the patient in terms of paying special attention to the patient’s beliefs, expectations, and emotions (97).

Stewart concludes in her review that a patient-centred communication style affects patients’ emotions in a positive way. According to Stewart’s analysis, a good communication style has a positive influence on patients’ anxiety, depressive mood, and pain control (98). In 2010, Husson published a systematic review about the connection of patient-centred communication with outcomes in cancer patients. In this review, Husson quotes four studies which found that patients had lower values in anxiety and depressivity when doctors communicated in a patient-
centred style. One study found higher values of anxiety and depressivity in patients who perceived the doctor's communication style as non-patient-centred (104). The role of patient-centeredness when breaking bad news to cancer patients was examined in 2017 by Gebhard. She found a correlation between the lack of patient-centred communication and higher scores for anxiety and depressivity (105).

However, because of the important role of patient-centred communication, guaranteeing that graduated doctors are able to conduct a professional medical conversation with a patient has been defined as one of the central learning targets for medical students. The training methods include SPs in roleplay, in which SPs portray, say, cancer patients being confronted with bad news. SPs agree that the communicative behaviour of students in roleplay has an impact on their emotions (9).

Patient-centeredness may influence SPs' emotions in a positive way, while a lack of patient-centred communication may trigger negative emotions in SPs. SPs in roleplay are supposed to act and feel like real patients. Only then is the portrayal of a patient authentic. There is no study that addresses the question of the consequences of patient-centred communication on SPs' emotions. This underlines the urgency of studying the consequences the communication style of students in roleplay has on SPs'. To date, there are no studies addressing the kind of behaviour that is relevant for SPs' emotions.

While the communication style of students may have an influence on the emotions of SPs, the patient roles as such are thought to affect SPs' mental well-being as well.

1.3.2 Patient portrayal: a triggering factor for SPs' mental well-being

Some authors assert that the portrayal of patient behaviour has severe consequences for SPs (7-9, 19, 75, 106-108). However, the modes of processing these consequences remain unclear. To protect SPs, as the employees of medical universities that they are, it is important to be aware of the specific consequences of patient portrayal and determine what exactly causes them.

1.3.2.1 Consequences of patient portrayal for SPs in medical education

The consequences that patient portrayal carries for SPs have been studied for decades. Naftulin and Andrew tried to identify differences between physical and emotional consequences as well as between the psychiatric profile of a group of SPs that portrayed patients and a control group of actors. The analysis of differences was based on personal
interviews and the results of the Minnesota Multiphasic Personality Inventory (MMPI), a personality trait questionnaire. In fact, only 18 SPs participated in this study in total, all of whom were professional actors. Although the group differences were not significant in this study, this may be due to the very small sample size. The SPs had problems to successively portray patient roles in high frequency and method actors exhibited more pronounced symptoms that actors who used other acting styles (107). Method actors seek to eliminate the boundary between self and a given role they play. They use their own emotions to vitalize the portrayed person (109). The significance of this acting style is discussed below. A surprising result of Naftulin and Andrew’s study was that all SPs had a high level of baseline symptomatology. Therefore, the authors recommended that, firstly, SPs should not play roles similar to their real mental or physical pathology because this would make SPs more vulnerable and, secondly, that SPs should be selected very carefully (107).

Subsequently, in 1995, Woodward and Gliva-McConvey raised the question of SPs’ resilience. They chose the method of focus groups and let 37 SPs discuss the effect of being an SP. The SPs initially described positive effects. Their perspective on health professionals had become more balanced, they reported improved communication skills, and they were able to receive more information from their own physician than before. The view on their practitioners had changed. They now expected them to be empathic, accepting, and pay more attention to their concerns (19). These characteristics are subsumed as patient-centred communication (89). Nevertheless, the SPs reported negative consequences as well. The work as SP was described as an emotional challenge: they stated that the reason for leaving the SP programme was emotional problems and that they would not have the emotional energy to work as an SP again (19). This shows that acting as an SP has an emotional impact on the actor behind the patient role and emotional capacity is needed to deal with the emotions associated with patient roles. This is a first step to understand patient portrayal as a triggering factor for reduced mental well-being. However, the SPs simultaneously stated that they enjoyed their work (19).

A few years later, Woodward investigated the impact of patient portrayal on SPs’ personal lives (108). There were SPs in her second focus group study who reported that they did not feel comfortable in certain patient roles. Some SPs refused to portray a patient role that did not appeal to them. The reason for such difficulties with patient roles was that the roles in question were too close to their own unresolved problems. In general, the SPs assumed a patient role in the sense that they really tried to “be” that person and learned to think like them. This lacking boundary between person and patient role is, again, associated with the method acting style. The SPs in Woodward’s study reported that the transition, meaning the act of exiting the patient role, is a difficult process. They train strategies to distance themselves from the role after
portrayal. Without a clear transition, the SPs reported adverse personal developments with far-reaching implications (108).

McNaughton, Tiberian and Hodges were the first to study the particular effects of emotionally distressing patient roles. They also formed focus groups following SPs’ performance of psychiatric roles in a psychiatry OSCE. The exam consisted of eight stations and every performance on the single station had a duration of 12 minutes. The roles SPs portrayed were schizophrenia, depression and mania, antisocial and borderline personality disorder, anxiety disorder and child psychiatric problems (7). The authors emphasized that the roles were emotionally demanding, intense and difficult to endure. In fact, they found the psychological consequences to be twice as many as the physical consequences. The psychological effects included role adherence, mental exhaustion, psychological irritation and sleeping problems. Role adherence means the SPs were “stuck” in their role and could not easily exit the role. Psychological irritation denoted a category in which the authors included statements of SPs about their emotions like “irritable”, “edgy”, “really jangly”, and “angry.” Positive effects were mentioned relatively scarcely (11 per cent of total statements) in this study (7).

One study by Hanson et al. used adolescent SPs as participants in a quantitative and qualitative study. They mainly found positive consequences of patient portrayal. One group had portrayed non-distressing and the other group emotionally distressing patient roles. Participants were asked in groups about the effects of their patient portrayal. Two participants reported suffering from stomachache after the portrayal of a patient with stomachache, yet most stated they had had fun, a new experience in education, satisfaction, and that they had learned to resist negative influences (106). One limitation of this study is the setting. Asking adolescents about negative consequences of patient portrayal in a group of the same age may lead to peer pressure. This effect may produce answers that trivialize certain (negative) effects of patient portrayal.

Lonneke Bokken published two articles on the subject of negative consequences of patient representation for SPs (8, 75). The method used in the first study was a questionnaire-based survey. In this study, 73 per cent of SPs reported stress symptoms after performing patient roles and the average number of symptoms per person was four, which was more than the authors expected. Bokken found that most SPs suffer from negative effects after patient portrayal (75) and that the consequences of the patient portrayal are more severe for emotionally distressing roles (7, 9). The symptoms included physical symptoms like headache or sleeping problems as well as psychological symptoms like worrying or anxiety and behavioural symptoms like increased alcohol consumption or smoking. No correlation was found between stress symptoms and age, gender, years of work experience, number of patient roles or acting style (75). When asked about their motivation for this type of work SPs indicated
a sense of being useful, learning something new, appreciating the contact with others, and a being valued. The type of patient role was not taken into consideration (75).

Two years later, Bokken published a follow-up study in which she examined the relevance of emotionally distressing patient roles versus less emotionally demanding patient roles. SPs described more negative effects after the portrayal of the distressing roles. The symptoms after role enactment were compiled based on focus groups. As in previous studies, exhaustion and dissatisfaction were among the symptoms indicated. In addition, a feeling of continuing to behave like the portrayed person and actually experiencing the portrayed symptoms even after portrayal were mentioned. These descriptions are similar to the consequences that Woodward reported (108) and which McNaughton describes as role adherence (7). It seems to be a widespread phenomenon that SPs have difficulties exiting the patient role after the portrayal of distressing roles has ended. However, the SPs in Bokkens study described a kind of vulnerability on some days but felt stronger on other days, depending on their own state of mood (8). SPs seem to be highly aware of the influence their current mood can have on their work. Nevertheless, even physical consequences were reported, and these results are indeed concerning. SPs reported abdominal pain after abdominal examination, breast pain after breast examination, headache, backache, and the worsening of an eczema after the portrayal of the emotionally distressing patient role of receiving bad news. However, they considered the physical consequences to be part and parcel of their work as an SP and did not complain about it (8). This shows that SPs may be able to endure work-related physical consequences, but that they do in fact suffer from the physical symptoms they portray. This phenomenon is also mentioned in Hanson’s study but has not been further studied in depth to this day. The suspicion that may arise in this regard is that SPs could perhaps contract the diseases they portray. However, it is of course impossible that someone is physically infected by roleplay, but the psychosomatic component, that is to say, the psychological background for physical symptoms, is a relevant subject in psychiatry.

Boerjan, like Hanson, found more positive consequences than negative consequences of patient portrayal. In a qualitative study, SPs reported less concern about their own symptoms because of their increased knowledge about medical issues and, conversely, some SPs felt vulnerable because they learned about serious diseases and developed a more conscious view on the value of life itself. SPs described an improvement of well-being. They enjoyed their work, felt good and appreciated, and even perceived a therapeutic effect (9). Boerjan also reported effects of roleplay such as stress, dissatisfaction, sleeping problems, anxiety and exhaustion, but took up another important point that Bokken first mentioned in 2006. The performance of the students is a determinant for the emotions of SPs (8, 9). All SPs in Boerjan’s study agreed that the behaviour of the students during roleplay had a significant effect on the
feelings of SPs after roleplay. They felt good in case the communication style and medical knowledge was sophisticated, and felt bad in case of a lack of empathy and congruence (9). This is a hint that patient-centred communication not only affects patients but similarly affects SPs’ mental well-being, as well.

In sum, SPs report reduced mental well-being as a consequence of patient portrayal in a broad variety. Psychological consequences include psychological irritation (7), role adherence (7, 8), worrying (75), sleeping problems (7, 9, 75), anxiety (75), dissatisfaction (8, 9), and stress (9). Furthermore, a variety of physical consequences is reported by SPs. Pain (7, 8, 106), tense shoulders, a sore neck, stiffness of the body, puffy eyes, blotched skin (7), and the worsening of eczema (8) are indicated. There have also been occasional reports of positive consequences of patient portrayal. SPs feel that their perspective on doctors changes to a more realistic view and they perceive that they improved their communication skills (19). SPs also perceive a heightened awareness of the surrounding (7) and some report having become more conscious of the value of life (9). Some SPs even experience a therapeutic effect after patient portrayal (7, 9). By and large, it seems that SPs generally enjoy their work (7, 9, 106).

When trying to categorize the consequences of patient portrayal, it becomes obvious that most physical and emotional effects are associated with reduced mental well-being in three categories: depressivity, anxiety and somatization. The equivalences are remarkable. Table 2 summarizes this notion.

<table>
<thead>
<tr>
<th>consequence of patient portrayal</th>
<th>Dimension of reduced mental well-being</th>
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<tbody>
<tr>
<td>sleeping problems</td>
<td>depressivity</td>
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<tr>
<td>exhaustion</td>
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<td>dissatisfaction</td>
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<td>anxiety</td>
<td>anxiety</td>
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<td>worrying</td>
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<td>shoulder tension</td>
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<tr>
<td>sleeping problems</td>
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<tr>
<td>exhaustion</td>
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<tr>
<td>psychological irritation</td>
<td></td>
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<tr>
<td>worsening eczema</td>
<td>somatization</td>
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<tr>
<td>pain (abdominal, headache, stomachache, breast)</td>
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</table>

In Boerjan’s study, SPs state that they actually suffer from physical symptoms after the portrayal of specific physical complaints (9). The consequences mentioned in the literature are noticeable even though the studies about the consequences of emotionally distressing patient roles remain scarce. Emotionally distressing roles can even lead to more severe
consequences (7, 9). However, there is a lack of quantitative studies that focus on the consequences of patient portrayal by SPs. Most effects of patient portrayal are based on focus groups and interviews. Only two studies use quantitative data to address this question (75, 86) and one of them has a sample of only 12 SPs (86), which is too small for meaningful results. It is important to close the gap in research and clarify whether or not it is harmful to work as an SP at medical universities.

After all, SPs report that they suffer from mental irritation after portraying psychiatric roles. They have to invest more emotional effort to simulate psychiatric roles compared to other patient roles (7, 9). Consequently, these patient roles lead to reduced mental well-being and can be regarded as a triggering factor. A high vulnerability combined with the triggering of mental irritation through the portrayal of distressing patient roles may lead to reduced mental well-being and therefore to mental strain.

1.3.2.2 Reasons for the development of reduced well-being after patient portrayal

Although some authors have publicized studies about the consequences of patient portrayal for SPs, there are in fact only few explanations as to why these effects of patient portrayal occur. The high frequency of successive patient portrayal (7, 9) and the method acting style (7, 107) are mentioned as reasons for the negative consequences of the emotionally distressing patient roles. So far, however, the underlying reasons have not been sufficiently understood or explained. Nevertheless, a glimpse at the mechanisms of roleplay in behavioural therapy helps understand why SPs feel strained by frequent portrayal of distressing patient roles. A brief digression to the meaning of method acting may help understand why this acting style is associated with SPs’ reduced mental well-being.

Patients who suffer from mental diseases can learn healthy behaviour through roleplay (110). In a safe setting, they can practise a certain behaviour they are usually unable to show in normal life. Patients display a new kind of behaviour in roleplay and receive positive feedback from the therapist or a group of other patients. As a result of the positive feedback, the behaviour is reinforced and shown more often and the patient learns to transfer this new behaviour to everyday life. This method relies on classical learning theory and operant conditioning (111). Yet while patients portray healthy behaviour in roleplay, SPs, in contrast, portray mental diseases in roleplay. SPs do not receive official feedback after role portrayal, but they get a positive response from the classroom audience. Following the cognitive-behavioural learning model, SPs are encouraged by showing precise behaviour and emotions
associated with mental diseases. Therefore, SPs might experience reduced mental well-being as a result of roleplay while patients improve thereafter.

The method acting style is stated as a reason for negative consequences of patient portrayal for SPs (7, 107). This acting style is based on the assumptions of Lee Strasberg. His theatre theory rests on the assumption that actors have to become the character they portray and that there should be no border between the self and the portrayed person (109). Lee Strasberg’s acting theory goes back to the work of Konstantin Stanislavsky (112). Stanislavsky propagated the “art of experiencing” for actors and was the first to teach actors to mobilize their emotions for good acting (112). Actors who apply the method acting style evoke their own experiences and the associated emotions to deliver a good performance (8). They inject their own emotions into the role they portray in order to bring the role to life (109). Without the emotions of the actor, theatre remains inanimate and the audience is deprived from perceiving the intended emotion (113). With regard to SPs, this is to say that they invest their own emotions in order to plausibly act as the patient who receives a palliative cancer diagnosis or a relative being informed about the death of a close family member. Method actors would remember a deceased relative in their own personal history in order to be able to cry and feel the grief for a good performance. In this sense, the emotions of the portrayed patients become the emotions of SPs. Another typical set of roles SPs adopt are those of psychiatric patients. They face emotionally distressing patient roles like depressive, anxious, and psychosomatic patients. Therefore, SPs have to feel worthless and hopeless during the portrayal of depression, they imagine to feel heavy pain during the portrayal of a patient with somatic pain disorder or they feel fear and sorrow in the role of patients who suffer from anxiety disorders. Especially in the classroom, the SP has to feel the patient’s emotion, otherwise the roleplay is not realistic for the student who portrays the doctor. Empathic students and audience would notice the difference. They would have problems entering into the relationship with the portrayed patient and countertransference could not take place between the two communicators “on stage”. In Frohn’s definition the essential impact of roleplay is not its subject or content but the pictures and scenes and the coherent emotions. These extend deep into our memory and manifest as stimulating and ever-changing impulses for our ongoing life (114). During roleplay, SPs might remember specific situations that provoked strong emotions which changed their lives. The direction of this effect is utterly unclear and there is no research about those situations in which SPs experience impairment of mental well-being or the increase of mental well-being as a result of the portrayal of distressing patient roles in communication skills training. SPs have to be in a highly emotional state during roleplay and are therefore exposed to their own counterpart as well as the audience, which in turn makes them vulnerable. Communication skills training is not a safe setting for SPs. Students might
want to show empathy, acceptance and offer a good relationship but are only just learning to do so and therefore will make mistakes (and they are allowed to do so).

In conclusion, SPs have to portray emotionally distressing patient roles over and over again and, in doing so, they face the strong emotions that are necessary for a good performance. As a result, patient portrayal reduces the mental well-being of SPs (7-9, 75, 106). A high frequency of patient portrayal is mentioned as the underlying reason (7, 9), an effect explained by the theory of behavioural therapy (110, 111). Adding to this, the method acting style is a source for reduced well-being of SPs (7, 9), the reason, again, being the exposure to highly emotional experiences (114). That said, not all SPs suffer from negative influences on their mental well-being, as they use protective strategies against negative influences on their mental well-being. One protective strategy that is reported to be used frequently (7, 108) but remains understudied (86) is the use of transition techniques (7, 19, 86, 108).

1.3.3 Transition techniques: a protective factor for SPs’ mental well-being

The consequences of patient portrayal are certainly concerning. Nevertheless, not all SPs experience equally severe effects of patient portrayal. According to Margraf, protective and health-promoting factors increase mental well-being and serve as a countermeasure for vulnerability, triggering factors and sustaining factors (87). There is some evidence that more experienced SPs perceive fewer negative effects of patient portrayal (75), and one reason for this may be that they use more efficient strategies for stress reduction. The negative impact of patient portrayal might be minimized by techniques SPs use after roleplay. Some authors mention that SPs ought to use techniques to distance themselves from a patient role after distressing patient portrayal (7, 19) or suggest debriefing procedures (7, 9, 75, 86). The term debriefing is known in the context of Posttraumatic Stress Disorder (PTSD). Currently, however, such a procedure is not being recommended any longer given that the positive effects are questionable and negative effects have been found (115).

Woodward was the first to address transition techniques for SPs. The SPs in her study reported severe consequences for their personal development in the absence of a clear transition and mentioned that they train transition techniques (108). These transition techniques were also mentioned by McNaughton. In her study, 13 of 16 SPs engaged in activities to exit the role such as going for a drink with colleagues, taking the make-up off or talking with colleagues about their performance (7). However, there is only one study by Gerzina which addresses the effectiveness of transition techniques (86). This study measures the effect of the specific techniques referred to as “positive reappraisal” and “mindfulness”. Medium to high negative correlations were found between the techniques of positive reappraisal and burnout scores as
well as between mindfulness and burnout scores. In other words, there is a link between the 
use of positive reappraisal or mindfulness and lower scores for burnout of SPs. However, the 
sample size of 27 SPs is quite small for a reliable quantitative data analysis (86).

There is a lack of research on these techniques for transition and Bokken suggests that more 
research is needed to clarify this phenomenon (75). Similar techniques of transition are used 
in roleplay in psychotherapy. Frohn suggests specific cues for good roleplay in therapy and 
lists strategies after roleplay like dropping a prop, doing a physical gesture as a way of stripping 
off the role, and taking a step accompanied by a sentence (“I am leaving the role now”). Exiting 
the patient role is essential because not doing so may lead to a blurring of boundaries between 
an actor’s personality and the performed character afterwards (114).

In conclusion, there are techniques used by SPs, but insight into their effectiveness is vague 
at best. There are only two studies which address these effects directly and the sample size 
of both is questionable.
1.4 Aims of the thesis

In the context of communication skills training in medical education, simulation patients portray patients in roleplay. Training with SPs has good outcomes for residents in those fields where practitioners are likely to be confronted with strong emotions of patients. How SPs deal with strong emotions has not been systematically explored. Multiple consequences of patient portrayal are known to date. The sources of reduced mental well-being include the behaviour of students and the kind of portrayed patient role. Potential countermeasures against reduced mental well-being are patient-centred communication and transition techniques. However, to this day there has been little understanding of the extent the impairment of mental well-being can reach. Hence, to address these issues, the following objectives are posed:

- exploring the situations in which students' behaviour during communication skills training triggers positive or negative emotions in SPs
- measuring the effect of general and specific distressing patient roles as a triggering factor on SPs' mental well-being
- exploring the protective effect of transition techniques.
CHAPTER TWO: RESULTS

2.1 First-authored original research paper

Georg Thieme Verlag grant the permission to insert the first page of the first-author publication in the layout of the journal “Psychotherapie - Psychosomatik - Medizinische Psychologie”. The following pages can be published but without the original Georg Thieme Layout. The permission is granted in the following chapter.

Furthermore, the original version of the publication was composed in German language. In order to guarantee an understanding for English-language readers, the paper has been translated. The original German version of the paper appears first, followed by the translation. The references for both articles are identically. They are attached at the end of the German version of the paper to avoid redundancy.

2.1.1 Prologue

In communication skills training, SPs portray emotionally distressing patient roles in order for students to acquire communication skills for dealing with emotionally complex situations. The emotions and perceptions of SPs during roleplay are decisive for authenticity. In other words, SPs have to experience emotions similar to those of real patients so as to deliver a credible portrayal of the patient. Boerjan asked SPs about the impact of students’ behaviour on their emotions and all respondents agreed that students’ performance has an impact on their feelings during roleplay (9). On the one hand, depending on the quality of communication, contact might be a source for emotional stress that leads to reduced mental well-being, or it might reduce stress and have a health-promoting effect. On the other hand, the feedback from SPs is one key factor for students’ insight into the emotions and perceptions of their counterpart in communication (2, 14). To ensure meaningful feedback, the emotions and perceptions of SPs have to be comparable to those of real patients. The reaction of SPs comes immediately during roleplay – through gestures and facial expressions as a response to a student’s particular communication style. Students get an idea of the SPs’ experience through the nonverbal response in the form of emotions and perceptions during roleplay and through feedback after the talk. There is a substantial number of studies that address systematic feedback (14, 58, 116, 117). To our knowledge, today, no study – except for Boerjan’s study – deals with the question as to which emotions and perceptions result in positive or negative appraisal by SPs. This is a significant gap in the literature, especially given the importance of this aspect. It is necessary to make sure that SPs are authentic in the sense that they are comparable to real patients while at the same time seeking a better understanding of the impact of students’ behaviour on the emotions and perceptions of SPs.
2.1.2 Research paper as published original (German language):

### ZUSAMMENFASSUNG

Einleitung: Der Einsatz von Simulationspatienten zum Trainieren ärztlicher Gesprächsführung hat sich in medizinischen Curricula als wertvolle didaktische Methode etabliert. Gegenstand dieser Studie ist die Frage, ob patientenbezogene Kommunikationsfähigkeiten, die Grundlage einer positiven und negativen Wahrnehmung der Simulationspatienten, und Empfindungen von SP ist.

Material und Methoden: 22 von 37 SP, der Medizinischen Universität Wien (12 Frauen, 10 Männer), wurden mittels halbstrukturierten Interviewleitfäden zu deren Befindlichkeit bei einem SP-Einsatz gefragt. Die transkribierten Interviews wurden in Situationen analysiert, die den SP positiv oder negativ vertraut in der Beziehung (positive) positive Gefühle mit der Wahrnehmung von Konflikt (15%), Akzeptanz (27%), sowie Empathie (36%), negative Gefühle berichteten, wurden durch die Wahrnehmung von Instabilität (18%), Konflikt (11%), mangelnder Akzeptanz (40%) und fehlender Empathie (36%).

Schlussfolgerung: Die Befindlichkeit von SP mit SP positiv, spielt im ärztlichen Gespräch jedoch keine Rolle.

### ABSTRACT

Introduction: The use of simulated patients (SPs) for doctor-patient communication training has been established in medical curricula as an important didactic method. The present study addresses the question, if patients’ emotions and perceptions are represented adequately in patient-centered communication.
Ärztliches Gesprächsführungstraining in simulierten Situationen:
Wahrnehmungen und Empfindungen von Simulationspatienten bei
patientenzentrierter Gesprächsführung

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Schlüsselwörter: Simulationspatient, Ärztliche Gesprächsführung, patientenzentrierte
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Zusammenfassung

Einleitung: Der Einsatz von Simulationspatienten zum Trainieren ärztlicher Gesprächsführung
hat sich in medizinischen Curricula als wichtige didaktische Methode etabliert. Gegenstand
derer Studie ist die Frage, ob patientenzentrierte Kommunikation die Grundlage adäquater
positiver und negativer Wahrnehmungen und Empfindungen von SP ist.

Material und Methoden: 22 von 37 SP, der Medizinischen Universität Wien (12 Frauen, 10
Männer), wurden mittels halbstrukturierten Interviewleitfaden zu deren Befindlichkeit bei einem
SP Einsatz befragt. Die transkribierten Interviews wurden in Situationsanalyseinheiten geteilt
und induktiv inhaltsanalytisch ausgewertet. Wir orientierten uns literaturbasiert an Merkmalen
patientenzentrierter Kommunikation sowie am „Nationalen Kompetenz­basierten
Lernzielkatalog Medizin“.

Ergebnisse: Aus 192 gewonnenen Analyseeinheiten wurden 67 positiv und 125 negativ durch
die SP bewertet. Nach 22% der Aussagen der SP bewirkte die Wahrnehmung von „Stabilität
und Vertrauen in die Beziehung“ positive Gefühle, ebenso bei der Wahrnehmung von
Kongruenz (15 %), Akzeptanz (27 %) sowie Empathie (36 %). Negative Gefühle berichteten SP durch die Wahrnehmung von Instabilität (18 %), Inkongruenz (11 %), mangelnder Akzeptanz (40 %) und fehlender Empathie (30 %). Zusätzlich stellte sich bei 50 % der SP positive Befindlichkeit beim Beobachten des Lernerfolgs von Studierenden ein.

Diskussion: SP berichten positive Befindlichkeit, wenn die Merkmale für patientenzentrierte Kommunikation von Studierenden eingehalten werden und negatives Empfinden, wenn keine Patientenorientierung vorhanden ist. Empathische Grundhaltung sowie mangelnde Akzeptanz waren die Kommunikationsmerkmale, die den stärksten Einfluss auf die SP hatten. SP reagieren hinreichend authentisch auf Patientenorientierung, um die Lernziele erreichen zu können. Lernerfolg von Studierenden ist für die Emotionen von SP relevant, spielt im Arzt-Patienten Gespräch jedoch keine Rolle.

Schlussfolgerung: Da die Einstellung von Studierenden für das Erleben der SP wichtig ist, sollten Studierende diesbezüglich vorbereitet werden. Gleichzeitig zeigen SP eine hinreichend authentische Reaktion auf patientenzentrierte Gesprächsführung zum Erreichen der Lernziele. Sie sollten jedoch unterrichtet werden ihre Freude über den Lernerfolg der Studierenden während des Rollenspiels nicht offen zu zeigen

Einleitung

In modernen Curricula für Gesundheitsberufe hat realitätsnahes, praxisorientiertes Training für die später im Beruf benötigten praktischen Fertigkeiten einen hohen Stellenwert. Praktische Tätigkeiten, wie z. B. das Verabreichen einer Injektion oder die Durchführung einer Ultraschalluntersuchung am Abdomen, erlernen Studierende heute vielfach in sogenannten Skills Labs. Hier kann in geschützter Atmosphäre und unter standardisierten Bedingungen an Simulationsmodellen geübt werden.


Unsere Studie untersucht daher die Grundlage positiver und negativer Wahrnehmungen und Empfindungen von SP während simulierter Gespräche mit Studierenden mittels qualitativer Interviews.
Dabei interessieren uns folgende Fragen:

1) Erleben und benennen Simulationspatienten eine vertrauensvolle, stabile Arzt-Patienten-Beziehung und eine kongruente, akzeptierende und empathische Haltung des studentischen Gesprächspartners als Grundlage positiver Wahrnehmungen und Empfindungen im simulierten Gespräch?

2) Benennen die SP das Fehlen einer solchen Beziehung und das Fehlen einer solchen Haltung als Quelle für negative Wahrnehmungen und Empfindungen?

3) Nennen SP, neben den in Frage 1 genannten kommunikativen Verhaltensweisen und Haltungen, weitere Verhaltensweisen und Haltungen der Studierenden als Grundlage ihrer Wahrnehmungen und Empfindungen im Gespräch?

**Material und Methoden**

**Teilnehmer:**


**Interview:**

berichteten Befindlichkeit passt. ("Vielleicht könnten Sie an eine konkrete Situation denken, die im Spiel für Sie wohlzuend/belastend war?"). Um Wahrnehmungen und Empfindungen an die erinnerte Situation zu aktivieren, wurde nach der Bitte sich an eine konkrete Situation zu erinnern bewusst eine Pause im Gespräch zugelassen. Erst danach erfolgte die Frage: "Was war für Sie in der Situation wohlzuend/belastend?". Die SP zeigten ihr Bemühen zur Erinnerung einerseits nonverbal. Das geschehen mit Gesten, wie einem Blick nach oben oder Stirnrunzeln oder verbal, in dem sie ihre Gedanken in Sätzen formulierten, wie bspw.: "Eine konkrete Situation im Unterricht, da muss ich kurz überlegen...". Wurden wenig Details zu einer Situation spontan berichtet, baten wir um genauere Beschreibung ("Können Sie diese Situation beschreiben?", "Gibt es Verhaltensweisen der Studierenden, die wohlzuend/belastend für Sie sind/die Ihnen gut tun/die gut für Sie sind/ wodurch es Ihnen besser geht?"). Wenn spontan tatsächlich nur von einer Situation gesprochen wurde, fragten wir explizit nach Erinnerungen an weitere Situationen nach ("Fällt Ihnen noch eine wohlzuend/belastende Situation ein?").

Im Anschluss daran wurde diese Vorgehensweise mit Situationen gegenteiliger Befindlichkeit wiederholt, damit jeder SP Wahrnehmungen und Empfindungen im Zusammenhang mit positiv und negativ erlebten Situationen äußern kann. Dann wurde zum nächsten Gesprächsthema übergeleitet, das jedoch nicht Gegenstand der vorliegenden Studie ist.


Die Datenschutzkommission sowie die Ethikkommission der Medizinischen Universität Wien hatten keine Einwände gegen die Studie.

Inhaltsanalyse:

Die Definition der Kodes zur Beschreibung von Wahrnehmungen und Empfindungen der SP erfolgt anhand der im NKLM definierten Lernziele für ärztliche Gesprächsführung: Die Absolventin und der Absolvent [...] sind in der Lage, durch ihr kommunikatives Handeln eine positive, tragfähige und vertrauensvolle Arzt-Patienten-Beziehung aufzubauen und zu erhalten" (14.c2.1). Sie können „eine patientenzentrierte (kongruente, akzeptierende und empathische) Grundhaltung einnehmen, entsprechend kommunizieren und dabei Nähe und Distanz professionell gestalten (14.c.2.1.1)[vgl. [9].

Dabei wird jeweils eine positive Ausprägung und eine negative Ausprägung als Kode definiert: (a) „Vertrauen und Stabilität in der Arzt-Patienten-Beziehung“ vs. „Mangelndes Vertrauen und Instabilität;“ (b) „Kongruenz“ vs. „Inkongruenz;“ (c) „Akzeptanz“ vs. „keine Akzeptanz“ und (d) „Empathie“ vs. „keine Empathie“. Die Zuweisung der Kodes zu den Analyseeinheiten erfolgte zunächst durch die Erstautorin sowie 2 weitere Personen. Unterschiedliche Zuweisungen von Kategorien wurden diskutiert und gemeinsam aufgelöst. Die Organisation der Transkripte und das Kodieren erfolgten mit Hilfe des Programms ATLAS.ti.

**Ergebnisse**

Aus den Äußerungen der 22 SP konnten 192 Analyseeinheiten gewonnen werden. Davon bezogen sich 67 auf Verhalten der Studierenden, das positive Befindlichkeit bei den SP induziert und 125 auf Verhalten, das negative Befindlichkeit auslöste (Tab. 1).

| Tabelle 1: Wirkung ärztlicher Gesprächsführung auf positive oder negative Befindlichkeit |
|-----------------------------------------------|-----------------------------------------------|
| **positive Befindlichkeit**                   | **negative Befindlichkeit**                   |
| (n=67)                                        | (n=125)                                       |
| Anzahl der Nennungen (% von n)                | Anzahl SP (% von 22 SP)                       | Anzahl der Nennungen (% von n) | Anzahl SP (% von 22 SP) |
| Stability                                     | 15 (12%)                                      | 6 (27%)                           | 23 (18%)                      | 14 (64%)                           |
| Kongruenz                                     | 10 (15%)                                      | 9 (41%)                           | 14 (11%)                      | 12 (55%)                           |
| Akzeptanz                                     | 18 (27%)                                      | 14 (64%)                          | (50 (40%)                      | 17 (77%)                           |
| Empathie                                      | 24 (36%)                                      | 13 (59%)                          | (38 (30%)                      | 15 (68%)                           |
Merkmale der ärztlichen Gesprächsführung, die positive Befindlichkeit auslösen:


Kongruenz nach Rogers bedeutet das Erleben von Echtheit des Gegenübers, mit seinen Emotionen und Einstellungen, statt des Verbergens hinter Profession oder Funktion [9]. In der Simulation kann Kongruenz somit nicht im eigentlichen Sinne erlebt werden, da das Setting künstlich hergestellt wird. Es kann jedoch erkannt werden, ob das Rollenspiel als solches funktioniert und beide in ihren Rollen aufgehen. Wir erheben Kongruenz aus der Sicht der SP. Dies erfordert die Bereitschaft der Studierenden, sich in die Arztrolle einzulassen sowie die Fähigkeit der SP, in der Rolle aufzugehen. Über „Kongruenz im Gespräch“ äußern sich die SP, wenn das Rollenspiel „funktioniert“ und die Situation ihnen echt erscheint: „Das fährt einem manchmal so in die Knochen diese Story, dass das überhaupt möglich ist, obwohl alle genau wissen, es ist nur eine Fiktion. Aber dadurch, dass sich die Menschen wirklich einbringen und sich fallen lassen in diese Situation, wird es dann plötzlich fast wirklicher als die Wirklichkeit“. Um den Unterschied zwischen Kongruenz und Inkongruenz zu erklären, beschrieb eine SP einen „zweiten Durchgäng“ eines Rollenspiels in der Untersichtsituation folgendermaßen: „Das hat man ja auch manchmal, dass die Studenten der zweiten Runde genau das versuchen, was gut beim ersten Gespräch gelaufen ist und komischerweise kommt das überhaupt nicht so rüber. Was beim Ersten authentisch und wohlwollend gewirkt hat, wirkt da nur irgendwie aufgesetzt und gespielt, […] sie haben das nachgemacht, imitiert, aber nicht wirklich bei sich gesucht und dann stimmt’s halt schon überhaupt gar nicht mehr. Deswegen finde ich das ja auch immer wichtig, das eben nicht mit Floskeln und so was gearbeitet wird, […] nicht gesagt wird, sie sollen das und das an der Stelle sagen.“ Insgesamt 10 Aussagen (15 %) von 9 SP (41 %) behandeln das Thema Kongruenz.

„Empathie“ wird 6-mal durch die Verwendung des Begriffs „Empathie“ genannt, wird aber auch mit Begriffen wie „mitführend sein“ oder „ein Gespür haben“ umschrieben. Eine SP beschreibt das Wahrnehmern dieses Gesprächsmerkmals wie folgt: „Also ich würde mal sagen so plakativ menschliche Wärme, ja. Also Leute hören einfach zu oder […] das einfach Verständnis gezeigt wird. Jetzt wo man wirklich das Gefühl hat der ist da, der versteht das jetzt, was da gerade in einem vorgeht“. Eine andere SP formuliert Folgendes: „Das hat mir in dem Fall einfach […] gut getan, dass sie sich absolut in mich hineinversetzt hat. Sie versteht das ganz genau, wie das ist und […] wie sie tun würde, wenn sie an meiner Stelle wäre, die sie mit umgehen würde mit dem Problem“. 24 Äußerungen befassen sich mit der Thema Empathie (38 %), diese stammen von 13 SP.

**Merkmale der ärztlichen Gesprächsführung, die negative Befindlichkeit auslösen:**


„Inkongruenz“ erleben die SP v. a. dann, wenn Studierende das Setting der Simulation mit Schauspielern prinzipiell ablehnen. Die Studierenden weigerten sich in diesem Fall überhaupt zu versuchen Köngruenz herzustellen: „Ein Student, der hat sich auf das Gespräch partout nicht eingelassen, sondern hat versucht die Patientin zu provozieren und […] schlecht darzustellen. Also das hat mich schon sehr gelästert […] Das war ziemlich ungut“. Insgesamt erwähnt die Hälfte der SP (n = 12, 55 %), dass sie Inkongruenz im Gespräch mit den Studierenden empfinden, diese Aussagen machen 11 % (n = 14) aller negativen Aussagen aus.

Über „mangelnde Akzeptanz“ berichten SP bspw. Folgender Maßen: „Ganz selten ist es da auch passiert, dass […] jemand, der zugehörte hat, ganz blöd gelacht hat, was bei psychiatrischen Fällen total daneben ist. Oder dass sie da die ganze Zeit reden oder so, wo man sich nicht konzentrieren kann. Es ist ja eine Improvisation, ja, und das findet ich einfach, also das habe ich auch schon mal unterbrochen und gebeten, dass die, dass ich mich
konzentrieren muss und dann weiter gemacht. Dieses Merkmal zeigt sich auch in Formulierungen wie: „Studierende zeigen sich überheblich“, „Götter in Weiß“ oder „sich verdinglicht fühlen“. Folgendes Zitat verdeutlicht das: „Es ist eine Verdinglichung von Patienten. Also [...] wenn der Patient jetzt zum Beispiel etwas präzisieren will, [...] wird gar nicht reagiert, sondern da wird abgefragt was gelernt worden ist und das kann auch virtuos sein, also richtig gut. [...] Da fühle ich mich wie eine dieser Gummifiguren, denen sie Herzmassage machen müssen. Und da merk ich eben, ich bin für die ein Ding“.

Eine SP artikuliert ihr negatives Erleben mangelnder Akzeptanz so: „Wenn dir ein Mensch gegenübersteht, wo du als SP das Gefühl hast, der interessiert sich nicht für deine Problematik, der sitzt jetzt da, der muss dir halt ein paar Fragen stellen, der hört dir nicht zu, der nimmt dich als Person nicht wahr mit dem, was du ihm anbietest“. Zum Thema „keine Akzeptanz“ fielen 50 Äußerungen von 17 SP, das sind mehr als zwei Drittel der negativ konnotierten Wahrnehmungen und Empfindungen im Zusammenhang mit studentischem Gesprächsführungsverhalten. Dabei unterscheiden die SP Situationen, in denen der Patient nicht akzeptiert wird, (n = 31) und Situationen, in denen der SP als Mensch hinter der Rolle nicht akzeptiert wird (n = 19). Zu keinem anderen Thema gibt es so viele Äußerungen.

Wenn SP über „keine Empathie“ berichten, wählen sie Umschreibungen wie „nicht an sich heranlassen“, „nicht auf Gefühle eingehen“ oder „distanziert sein“. Folgendes Zitat veranschaulicht dies: „Was manchmal vorkommt ist, dass Studenten nicht auf Gefühle eingehen können, dass sie ganz distanziert bleiben, was [...] für mich als Patientin dann nicht ideal ist, dann fühle ich mich natürlich nicht so angenommen“. Die SP beschreiben Situationen, in welcher Studierende den Eindruck vermitteln sie würden alles „formal richtig machen, aber die Person nicht an sich heranlassen“. Knapp ein Drittel der negativ konnotierten Wahrnehmungen und Empfindungen ist dem Kode „keine Empathie“ (n = 38) zuzuordnen; 15 SP sprechen in den Interviews zu diesem Thema.

Erweiterung bzw. Revision der Kategorien in Reaktion auf das Material:

Die SP berichten positive Emotionen bei der Wahrnehmung von Lernerfolg der Studierenden. Ein SP beschreibt dieses Gefühl wie folgt: „Wenn das Gespräch wirklich gut war und wenn ich gesehen hab, die sind schon so weit, dass man sieht, [...] dass ein guter Arzt, eine gute Ärztin rauskommt, dann bin ich sehr beglückt“. Auch die Bedeutsamkeit für Arbeit wird geschildert: „Da ging das Konzept auf, da fühlten sich alle wohl, jeder hat etwas gelernt, es ist Empathie im Raum, man hat das Gefühl es macht Sinn was man macht und man hat das Gefühl, man hat ein bisschen gebaut an der Umwelt. [...] das sind eben Highlights“. Es werden 12 Aussagen von 11 SP (50 %) zum Thema „Lernerfolg von Studierenden“ genannt.
Diskussion


Tatsächlich berichten SP besonders häufig über positive Wahrnehmungen und Empfindungen, wenn ihnen eine empathische Grundhaltung vonseiten der Studierenden entgegengebracht wird. Wir gehen davon aus, dass sich SP im Unterricht dem Gegenüber öffnen müssen, um den Patienten authentisch darzustellen und sie sich daher erwarten, dass diese Emotionen vom Gesprächspartner angenommen und erwidert werden. Ähnlich wie in einer Arzt-Patienten-Beziehung, wo erwartet wird, dass der Patient offen und vertrauensvoll dem Arzt gegenübertritt und dieser im Gegenzug seine Anliegen empathisch aufnimmt, um in einem weiteren Schritt die Behandlung auf Basis seiner Krankengeschichte und aktueller Schilderungen planen und dem Patienten vermitteln zu können.


Anders als bei Patienten führt bei SP die Beobachtung des Lernerfolgs von Studierenden zu positiven Wahrnehmungen und Empfindungen. Dies scheint dafür zu sprechen, dass für SP die Sinnhaftigkeit ihrer Arbeit einen hohen Stellenwert hat [33]. Der Vorteil dieses positiven Erlebens trägt vermutlich zu einer guten Arbeitsmotivation der SP bei, hat aber den Nachteil, dass möglicherweise die Authentizität des Settings beeinträchtigt wird. Tritt der SP aus der Rolle des Patienten heraus und wird sich seiner Funktion als SP gewahr, bilden sich möglicherweise Hierarchieverhältnisse des Arzt-Patienten-Gespräches nicht authentisch ab. Im simulierten Gespräch steht die unmittelbare Bewertung des Gesprächsverhaltens des Studierenden in der Arztrolle durch den SP im Vordergrund, es herrscht ein Machtgefälle zuungsten des Studierenden [34]. Im realen Arzt-Patienten-Gespräch steht hingegen die Einordnung der Beschwerden Erklärungsmodelle des Patienten in einen medizinischen Kontext durch den Arzt im Vordergrund, was ein Machtgefälle zuungsten des Patienten begünstigt [35].

Auf dem Weg zu einer möglichst effektiven Simulation zum Zwecke der Erreichung von Lernzielen ist die authentische Patientendarstellung durch die SP ein Baustein. SP schätzen kommunikative Verhaltensweisen und Haltungen, die auch bei Patienten zu Zufriedenheit führen, bzw. sind unzufrieden, wenn sie auf kommunikative Verhaltensweisen und Haltungen treffen, die auch bei Patienten zu Unzufriedenheit führen. Hinsichtlich dieser Aspekte kann die Simulation als authentisch und somit einem realen Arzt-Patienten Gespräch ähnlich gesehen werden. Ein weiterer Baustein zur Erreichung von Lernzielen ist die aktive Mitarbeit der Studierenden. Um die Kommunikationssituation authentisch zu gestalten, muss sich der Studierende auf den Dialog mit dem SP einlassen, ganz ähnlich wie der Arzt sich auf den Dialog mit dem Patienten einlassen muss [35]. Der Mangel an Authentizität der Hierarchieverhältnisse könnte durch Kongruenz im Rollenspiel ausgeglichen werden. Die Beteiligten sollten sich im nötigen Ausmaß auf ihre Rollen einlassen, um relevante Lernziele der patientenzentrierten Kommunikation praktisch üben zu können [34].


Schlussfolgerung


Fazit für die Praxis


Im Sinne der SP sollten Studierende auf die Relevanz von Patientenorientierung für SP hingewiesen werden und gleichzeitig SP auf potenziell negative Erlebnisse mit Studierenden vorbereitet werden.

Danksagung

Wir danken den Schauspielpatientinnen und Schauspielpatienten der Medizinischen Universität Wien für ihre ehrlichen und spannenden Interviewbeiträge.

Interessenkonflikt

Die Autoren geben an, dass kein Interessenkonflikt besteht.
Literatur


2.1.3 Research paper translation for English readers:

Emotions and Perceptions of Simulation Patients during Patient-Centred Communication

“Introduction

In modern curricula for health care professions, practice-oriented training for the practical skills that doctors require throughout their career is a high priority. Students learn in so called “skills labs” how to perform practical procedures such as giving an injection or conducting an ultrasound examination of the abdomen. It can be practiced in a safe atmosphere and under standardized conditions on simulation models.

Practical skills training in modern curricula also includes learning how to conduct a professional conversation with patients [1]. Students learn how to communicate with the aim of taking the needs of both the patient and the practitioner into account. Behaviour that supports this goal is subsumed under the term “patient-centred communication” [2–4]. The fundamental components of this communicative approach include a stable relationship between a doctor and a patient [2, 4, 5], a congruent behaviour of the doctor [2, 5], the doctor’s acceptance of perceptions, expectations and explanatory models of the patient [4, 6], as well as the ability of the doctor to respond empathically to the needs of the patient [6-8]. These terms were originally developed by Carl Rogers [9].

There is evidence for the link between patient-centred communication and both a patient’s well-being and satisfaction [10]. Patient adherence is higher in the case of satisfied patients [11-13]. Moreover, the satisfaction of patients also leads to greater openness towards the doctor [8] and allows for a more trustful relationship with the doctor [14]. Adding to this, patient satisfaction is important for maintaining and improving health in general [15-17]. Consequently, the catalogues specifying the learning targets for medical communication [18, 19] list the development of a trustful and stable doctor-patient relationship [19] as an important educational objective. Furthermore, they demand a congruent [2], accepting [5] and empathic attitude [8, 20] in medical communication.

So-called simulation patients (SPs) are used to train a professional doctor-patient-conversation in medical studies and in training for other health professions [21, 22]. In a typical simulation, the SP assumes the role of a patient. SPs give feedback to the students at the end of the roleplay. This feedback includes information about the successful establishment of a trusted relationship and the degree of a student’s ability to act in a congruent, accepting, and empathic manner [23, 24]. Scenarios with SPs, say, designed to practise structured anamnesis,
psychiatric exploration or the delivery of bad news [24, 25] have been evaluated and established as an efficient didactic method [3, 24, 26–29]. Students learn how to conduct professional medical conversations based on their experience in the roleplay situation as well as the feedback of the SPs. The perceptions and emotions of the SP in roleplay are therefore essential.

These perceptions and emotions have to be authentic, that is to say, they must be similar to the perceptions and emotions of real patients, in order to result in meaningful feedback. The reaction of SPs in the conversation with a student arises directly from the patient’s perspective. The immediate non-verbal feedback of the SPs, the emotions in the conversation and the feedback following the conversation are the basis of the student’s learning experience. So far, studies which address the kind of perceptions and emotions of SPs that lead to a positive or negative assessment of a conversation are lacking.

Our study examines the basis of positive and negative perceptions and emotions of SPs during simulated conversations with students through qualitative interviews.

We are interested in the following questions:

1) Do simulation patients experience and subsequently indicate a trusting, stable doctor-patient relationship as well as congruence, acceptance, and empathy on the part of the student as the source of positive perceptions and emotions in the simulated conversation?

2) Do SPs indicate the absence of such a relationship and the lack of these characteristics as a source of negative perceptions and emotions?

3) Do SPs report any other (communicative) behaviour or attitudes of students as the source of their perceptions and emotions in conversation?

Methods

Participants:

All 37 SPs who work at the Teaching Centre of the Medical University of Vienna were informed about and invited to participate in the study. The SPs are professional actors in the sense that all of them graduated from drama school. All of them have worked as an SP for at least one year. Each SP is able to portray 15-20 patient roles which are currently defined for the curriculum. Each season, one SP performs a patient role in 35 to 42 teaching and examination units (duration 90-120 min). On average, they have between 200 and 400 performances with a duration of 5-20 min each. The SPs prepare for the performance in a 20-hour role and feedback training course. The course instructor is a trained acting and communication coach
with many years of experience in medical communication who has worked as an SP herself. There were 22 SPs (12 women, 10 men) aged between 34 and 72 years who participated in the study.

The interviews:

For the collection of data about perceptions and emotions of SPs during patient portrayal in medical skills training, an interview guideline was created, based on the Critical Incident Technique (CIT) [30, 31]. This technique is used to evoke the memory of a concrete situation (e.g. discussion with a student in class) to receive a relevant report of behaviour and thoughts in this situation (e.g. “I felt well, because he listened to me attentively”) [30, 31]. The interview was started with an open question about the feelings following a roleplay (“How do you feel after roleplay?”). Depending on the answer (mainly positive feelings, for example “good”, “relaxed”, or mainly negative feelings, e.g. “distressed”), the following request was to recall a concrete situation that matched the predominant emotion. (“Can you think of a concrete situation that was beneficial/distressing for you during roleplay?”). To support the recollection of the perceptions and emotions in the remembered situation, we allowed a pause in the conversation at this point. In case there were no more situations or aspects of the situations mentioned, we asked the next question: “What exactly was it that was pleasant/distressing for you in this situation”? The SPs showed their efforts to remember these concrete situations nonverbally, either through gestures such as a look upwards or by frowning, or verbally, by articulating their thoughts in sentences such as: “A concrete situation in class, I have to think for a moment...”. If the SPs reported only few details about a situation spontaneously, we asked for more details (“Can you describe this situation in more detail? Are there any behavioural patterns on the part of the students that were beneficial to you?”). Thereafter, we asked about specific behaviour following the positive or negative situations in roleplay. Subsequently, this procedure was repeated with a focus on the opposite emotion, so that each SP could express perceptions and emotions related to situations they had perceived positively and negatively. Finally, we moved on to the next topic of conversation, which, however, is not the subject of this study.

The semi-structured interviews were conducted with an interview guide in the classrooms of the Teaching Centre.

This location was chosen because the SPs have their performances in these rooms and we hoped that the memories of the participants could be more easily evoked here. Interviews commenced after the approval of the participants to make a recording on tape. The duration of the interviews was 42 minutes and 52 seconds on average.
The data protection commission and the ethics commission of the Medical University of Vienna did not have any reservations about the study.

Content analysis:

We transcribed the interviews and divided the perceptions and emotions reported by the SPs into units of analysis.

These were structured as follows: “Beneficial/distressing was the behaviour X and/or attribute Y”. For example: “It was beneficial that she fully empathized with me”; “A student who was reluctant to engage in the conversation caused distress for me”. In most cases, each recalled situation resulted in several different units of analysis, which were subjected to a qualitative content analysis with deductive assignment of codes or content structuring [32]. This procedure allows for describing the analysis units on the basis of a priori defined codes, but also provides for an extension or revision of the codes in response to the material.

The definition of the codes describing the perceptions and emotions of SPs adheres to the learning objectives of medical communication skills: the graduates are able, through their communicative behaviour, to create and maintain a positive, sustainable and trusting doctor-patient-relationship” (14.c2.1). They can create a patient-centred (congruent, accepting and empathic) basic attitude, communicate accordingly and at the same time maintain closeness and distance professionally (14.c.2.1.1) [19] cf. [9].

In each case, a positive value and a negative value, respectively, are defined as codes: (a) “trust and stability in the doctor-patient relationship” vs. “lack of trust and instability”; (b) “congruence” vs. “incongruence”; (c) “acceptance” vs. “no acceptance”, and (d) “empathy” vs. “no empathy”.

The assignment of the codes to the analysis units was initially carried out by the first author and two other experts. Different assignments of categories were discussed and resolved. The organization of the transcripts and the coding were done using the program ATLAS.ti.

Results

Overall, some 192 units of analysis were obtained from the statements of the 22 SPs. Of these, 67 related to student behaviour that induced a positive mood in SPs and 125 to behaviour that led to a negative mood. Table 3 shows the results.
Table 3: Characteristics of patient-centred communication that result in a positive or negative emotional state of SPs

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Positive Emotional State (n=67)</th>
<th>Negative Emotional State (n=125)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of mentions (% of n)</td>
<td>Number of SPs (% of 22 SPs)</td>
</tr>
<tr>
<td>Stability</td>
<td>15 (22%)</td>
<td>6 (27%)</td>
</tr>
<tr>
<td>Instability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Congruence</td>
<td>10 (15%)</td>
<td>9 (41%)</td>
</tr>
<tr>
<td>Incongruence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acceptance</td>
<td>18 (27%)</td>
<td>14 (64%)</td>
</tr>
<tr>
<td>No acceptance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathy</td>
<td>24 (36%)</td>
<td>13 (59%)</td>
</tr>
<tr>
<td>No empathy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Characteristics of medical communication that lead to a positive emotional state:

We assign the following statements of the SPs to the code “stability and trust in relationship”: “Stabilität ausstrahlen” (appear stable), “sich aufgefangen fühlen” (a feeling of being taken care of adequately), “sich darauf einlassen” (to be engaged) or “wirklich wahrgenommen werden” (being properly perceived) (54, p.4). A typical statement on this topic is: “Je mehr ich das Gefühl habe ich kann dieser Studentin vertrauen, die lässt sich voll auf mich ein, umso mehr kann ich mich öffnen, umso mehr kann ich von mir preisgeben” (54, p.4) (The more I have the feeling I can trust this student, she fully engages with me, the more I can open up, the more I can reveal about myself). Perceptions and emotions related to code "stability and trust in relationship" were found in a total of 22 per cent (n = 15) of the positive comments which were made by six SPs.

According to Rogers, congruence denotes the experience of an authentic counterpart in communication, that is to say, the experience of the counterpart’s emotions and attitudes, as opposed to hiding behind their profession or function. Congruence cannot be experienced in simulation by definition given that the setting is artificial itself. However, congruence in simulation can be understood as the recognition of a functioning roleplay and the question whether both conversation partners are fulfilling their roles. We asked the SPs about the perceived congruence from their point of view. Congruence requires the commitment of students to assume the role of doctor and the ability of SPs to play the patient role.

When the roleplay is perceived to have worked well and the situation felt real SPs refer to “congruence in conversation” as follows, for example: “Das fährt einem manchmal so in die Knochen diese Story, dass das überhaupt möglich ist, obwohl alle genau wissen, es ist nur eine Fiktion. Aber dadurch, dass sich die Menschen wirklich einbringen und sich fallen lassen
in diese Situation, wird es dann plötzlich fast wirklicher als die Wirklichkeit” (54, p.4) (Sometimes, the story really grips you to the marrow, the fact that it is even possible at all, even though everyone knows it is only fiction. But when people really get involved and allow themselves to embrace the situation, it suddenly becomes almost more real than reality). In an attempt to explain the difference between congruence and incongruence, one SP described the “second round” of a roleplay in the classroom as follows: “Das hat man ja auch manchmal, dass die Studenten der zweiten Runde genau das versuchen, was gut beim ersten Gespräch gelaufen ist und komischerweise kommt das überhaupt nicht so rüber. Was beim Ersten authentisch und wohlwollend gewirkt hat, wirkt da nur irgendwie aufgesetzt und gespielt, […] sie haben das nachgemacht, imitiert, aber nicht wirklich bei sich gesucht und dann stimmt's halt schon überhaupt gar nicht mehr. Deswegen finden ich das ja auch immer wichtig, dass eben nicht mit Floskeln und so was gearbeitet wird, […] nicht gesagt wird, sie sollen das und das an der Stelle sagen” (54, p.4) (Sometimes you find that students try to repeat those aspects in the second round which worked well during the first conversation. Yet, strangely enough, it doesn’t work that way; What seemed authentic and benevolent in the first round now appears as put on and like play-acting; they imitated it, but it didn’t really come from within themselves and then it doesn’t feel real at all anymore. That’s why I always think it’s important that people don’t work with empty phrases and stuff like that; and that they shouldn’t be trained along the lines of ‘I want you to say this and that right here’.) A total of 10 statements (15 per cent) made by nine SPs (41 per cent) pertain to congruence. The SPs expressed acceptance in statements like “sich angenommen fühlen” (feeling accepted), “Wertschätzung erfahren” (experiencing appreciation) or “das Gespräch auf Augenhöhe” (the conversation at eye level) (54, p.4). The following quote is a typical example: “Das war sensationell. So vor 2 Jahren habe ich dieses Gespräch geführt und es ist noch immer in mir drinnen. […] das war meine Ebene, so kommuniziert man ganz selten miteinander, auf Augenhöhe und respektvoll” (54, p.4) (It was exceptional. I had this conversation about two years ago and it’s still with me. […] I felt I was understood, that is the way people communicate with each other only very rarely, on an equal footing and respectfully.). The topic of acceptance is referred to by 14 SPs (64 per cent) and accounts for 27 per cent of all positive statements.

Empathy is expressed six times by the use of the term “Empathie” (empathy), but is also referred to with terms such as “mitfühlend sein” (to be compassionate) or “ein Gespür haben” (to have intuition) (54, p.4). One SP described the perception of this conversation characteristic in the following words: “Also ich würde mal sagen so plakativ menschliche Wärme, ja. Also Leute hören einfach zu oder […] dass einfach Verständnis gezeigt wird. Jetzt wo man wirklich das Gefühl hat der ist da, der versteht das jetzt, was da gerade in einem vorgeht” (54, p.4) (So
I would say, bold and simple, human warmth, yes. Meaning that people are simply listening or [...] show their understanding. So, you really get the feeling that he is present, now he understands the things going on inside you). Another SP says, “Das hat mir in dem Fall einfach [...] gut getan, dass sie sich absolut in mich hineinversetzt hat. Sie versteht das ganz genau, wie das ist und [...] wie sie tun würde, wenn sie an meiner Stelle wäre, wie sie damit umgehen würde mit dem Problem” (54, p.4) (It was simply good for me in this case that she really put herself in my place. She understands exactly how that feels and [...] how she would behave if she was in my place, how she would deal with the problem). There were 24 statements dealing with the subject of empathy (36 per cent) made by 13 SPs (59 per cent).

Characteristics of medical communication that lead to a negative emotional state:

The topic of “Instability in Relationship” appears in the remarks of SPs as “lässt keinen menschlichen Kontakt zu” (54, p.4) (does not allow any interpersonal contact) or “medizinische Informationen sind im Vordergrund” (54, p.4) (medical information has priority) (54, p.4). An SP describes his perception of an unstable relationship with the following words: “Wenn die Burschen dann in irgendwelche flachen Witze verfallen, weil sie den Druck nicht aushalten” (When the guys start making silly jokes because they can't stand the pressure). Another SP says: “Die Studierenden meinen sie sind jetzt dann Arzt und sie müssen ein bestimmtes Gehabe haben und dadurch wird aber der menschliche Kontakt [...] erschwert. Und wenn der menschliche Kontakt nicht da ist, wird es für mich für den Patienten schwerer sich dem Arzt anzuvertrauen und ich finde der Patient kommt ja zum Arzt, weil er möchte sich ja dem Arzt anvertrauen. Man sucht ja die Hilfe und die Hilfe bekommt man am ehesten, wenn man Vertrauen hat” (54, p.4) (The students think they must show a certain behaviour because they are now doctors but the interpersonal contact [...] becomes more difficult. And when there is no true personal contact, it will be harder for me/for the patient to confide in the doctor, and I think the patient consults the doctor precisely because he or she wants to confide in the doctor. After all, you’re looking for help and you’re more likely to get help if you have trust). Almost two thirds of the SPs (n = 14, or 64 per cent) make statements about “instability in relationship”, which account for 18 per cent of all negative comments.

The SPs’ experience “incongruence” the most when students reject the setting of simulation with actors altogether. Some students even refused to try to establish congruence: „Ein Student, der hat sich auf das Gespräch partout nicht eingelassen, sondern hat versucht die Patientin zu provozieren und [...] schlecht darzustellen. Also, das hat mich schon sehr geärgert [...] Das war ziemlich ungut” (54, p.5) (One student really shied away from engaging in the conversation and instead tried to provoke the patient and [...] misrepresent her. Well, that really irritated me quite a bit [...] . That was pretty bad). In total, about half of all SPs (n = 12, or 55
per cent) mentioned “incongruence” in conversation with students. These statements make up 11 per cent (n = 14) of all negative statements.

The SPs report “no acceptance” as the following: “Ganz selten ist es da auch passiert, dass […] jemand, der zugehört hat, ganz blöd gelacht hat, was bei psychiatrischen Fällen total daneben ist. Oder dass sie da die ganze Zeit reden oder so, wo man sich nicht konzentrieren kann. Es ist ja eine Improvisation, ja, und das find ich einfach, also da hab ich auch schon mal unterbrochen und gebeten, dass die, dass ich mich konzentrieren muss und dann weiter gemacht“ (54, p.5) (In some rare instances […] someone who was listening actually started laughing and that is the epitome of misbehaviour when there are psychiatric patient cases. Or that somebody talked all of the time or so, that you cannot concentrate. It’s an improvisation, well, and I just think, so I interrupted once and asked that they, that I have to concentrate and after that I continued). The characteristic is additionally present in the following statements: “Students show arrogant behaviour”, “Gods in white” or “feeling objectified” (54, p.5). The following quotation makes the point clear: “Es ist eine Verdinglichung von Patienten. Also […] wenn der Patient jetzt zum Beispiel etwas präzisieren will, […] wird gar nicht reagiert, sondern da wird abgefragt was gelernt worden ist und das kann auch virtuos sein, also richtig gut. […] Da fühle ich mich wie eine dieser Gummifiguren, denen sie Herzmassage machen müssen. Und da merk ich eben, ich bin für die ein Ding.“ (54, p.5) (It is an objectification of patients. So, […] when the patient, for example, wants to specify something, […] there is no reaction but instead only the questions as learned, and that can also be virtuoso, really good. […] But I feel like one of those rubber dummies they practise heart massage on. And then I just realize that to them I am just an object). Another SP reports her negative experience of no acceptance: “Wenn dir ein Mensch gegenüber sitzt, wo du als SP das Gefühl hast, der interessiert sich nicht für deine Problematik, der sitzt jetzt da, der muss dir halt ein paar Fragen stellen, der hört dir nicht zu, der nimmt dich als Person nicht wahr mit dem, was du ihm anbietest“ (54, p.5) (When there is a person sitting opposite you and you as the SPs have the feeling that he or she does not care about your problem. They only sit there now, obliged to ask you a few questions, but don’t listen to you, don’t perceive you as a person with what you have to offer). On the subject of “no acceptance” there were 50 comments made by 17 SPs, that is more than two thirds of the negatively connotated statements. The SPs distinguished situations in which the patient was not accepted (n = 31) from situations in which the SP as a person behind the role was not accepted (n = 19). On no other subject did the SPs make as many statements.

When SPs reported about “keine Empathie” (no empathy), they chose descriptions like “nicht an sich heranlassen” (not letting somebody come close), “nicht auf Gefühle eingehen” (not responding to emotions) or “distanziert sein” (be distanced) (54, p.5). The following quote illustrates this: “Was manchmal vorkommt ist, dass Studenten nicht auf Gefühle eingehen
können, dass sie ganz distanziert bleiben, was [...] für mich als Patientin dann nicht ideal ist, dann fühlt mich natürlich nicht so angenommen.“ (54, p.5) (It sometimes happens that students are unable to respond to feelings, that they remain completely distanced, which [...] then is not ideal for me as a patient, and at which point I don’t feel too accommodated). In some statements, SPs describe situations in which students give the impression that they do everything formally correct but indeed, they keep the person at a distance. Nearly one third of the negatively connotated statements is assigned to the code “no empathy” (n = 38); 15 SPs refer to this subject in the interviews.

Additional students’ characteristics as a source of emotions in the simulated talk:

SPs report positive emotions when they perceive the students’ learning success. One SP describes this feeling as the following: “Wenn das Gespräch wirklich gut war und wenn ich gesehen hab, die sind schon so weit, dass man sieht, [...] dass ein guter Arzt, eine gute Ärztin rauskommt, dann bin ich sehr beglückt“ (54, p.5) (In case the conversation went really well and when I see that they are already quite well-prepared, that you can tell [...] they will become a good doctor, then I’m very pleased). The SPs also refer to the significance for their work: “Da ging das Konzept auf, da fühlten sich alle wohl, jeder hat etwas gelernt, es ist Empathie im Raum, man hat das Gefühl es macht Sinn was man macht und man hat das Gefühl, man hat ein bisschen gebaut an der Umwelt. [...] das sind eben Highlights.” (54, p.5) (The concept worked out in that instance, everyone felt comfortable, everyone learned something, there is empathy in the air, you have the feeling it makes sense what you do, and you get the feeling that you’ve made a difference. [...] these are the highlights). There are 12 statements from 11 SPs (50 per cent) on the topic of students’ learning success.

Discussion

We examined whether the SPs report “trust and stability in relationship”, “congruence”, “acceptance”, and “empathy” as the source of positive perceptions and emotions because patients indicate these characteristics of patient-centred communication as satisfying. We wanted to know if the lack of these characteristics is reported by SPs as the source of negative perceptions and emotions and found that SPs are indeed affected by similar characteristics of patient-centred communication as real patients.

Indeed, SPs indicate positive perceptions and emotions particularly frequently when students show an empathic attitude towards them. We assume that SPs have to open up to the students to perform an authentic patient role portrayal and therefore may expect students to accept and respond to their emotions vice versa. This is similar to a patient-doctor relationship in which a
patient who is trustful and open towards the doctor in turn expects the doctor to accommodate
his or her concerns empathically, subsequently plan an adequate therapy based on the
patient’s medical history and then impart this plan to the patient.

SPs report negative perceptions and emotions that lead to dissatisfaction when SPs do not
feel accepted. The lack of acceptance has different manifestations. Just like real patients, SPs
feel distressed in case their concern is not taken seriously. In this case, the SP is not accepted
as patient. A lack of acceptance is possible in another situation, too. When students reject
patient portrayal and the lecture with an SP altogether there is a lack of acceptance of the
overall setting that includes SPs. Here, SPs as actors are not accepted in their role, which
highlights, firstly, the limitations to authenticity in the simulation with SPs and, secondly, the
hierarchy differences between doctor-patient conversation and student-SP conversation.

Although previous research results have shown that students assess the possibility of learning
with SPs positively on average [28], students also criticize this method, e.g. the fact that it is in
the power of the SP to answer questions asked by the students and to withhold relevant
information in a targeted manner, or that SPs only reward a pre-defined conversation
behaviour, regardless of the actual quality of communication [29]. This means that at least
some of the students are less inclined to accept learning in simulation settings and therefore
have problems engaging in simulation. These experiences of a lack of acceptance were
particularly unpleasant for the SPs in our study.

“Acceptance” in connection with positive emotions was reported less frequently. The reason
might be that “acceptance” by the communication partner is presupposed for a good
conversation, while not being accepted is experienced as rejection and therefore, in emotional
terms, is more memorable for SPs.

Contrary to the doctor-patient relationship, the observation of students’ learning success leads
to positive perceptions and emotions on the part of SPs. This corresponds to similar results in
the literature suggesting that SPs value the meaningfulness of their work [33]. The advantage
of this generally positive perception is a potentially higher work motivation. The disadvantage
may be that the authenticity of the setting can decrease. The moment an SP becomes aware
the learning success of the student and feels satisfied about that he or she is no longer
immersed in the patient role and becomes conscious about his or her function as an SP in the
lecture. Consequently, this reveals the difference in hierarchy between SP and student
compared to patient and doctor. In simulated conversations the SP’s direct feedback regarding
the communicative behaviour of the student in the role of physician has priority. There is a
power imbalance to the disadvantage of the student [34]. In real physician-patient-
conversation, however, the classification of the patient’s concerns by the physician takes
centre stage, facilitating a power imbalance to the disadvantage of the patient [35].
On the way to effective simulation to meet learning targets, authentic patient portrayal is one step. SPs are satisfied when students show behaviour and attitudes that lead to patient satisfaction. Conversely, they are dissatisfied when students show behaviour and attitudes that lead to patient dissatisfaction. With regard to these aspects, the simulation with SPs can certainly be considered to be authentic and similar to doctor-patient communication. Another important component for meeting learning targets is the active participation of students. In order for a communication setting to be authentic, the student has to engage in communication, similar to the doctor who has to engage with the patient [35]. The lack of authenticity of the hierarchical relationships may in fact be compensated for by congruence in roleplay. Participants must therefore sufficiently embrace their roles in order to practise the relevant skills as determined by the educational targets [34].

As a limiting factor, it must be mentioned that we did not compare the perceptions and emotions of SPs in this study directly with perceptions and emotions of patients. Adding to this, our results are based on retrospective reports given by SPs. A direct comparison of perceptions and emotions of SP with those of real patients may provide further insight into the comparability of perceptions and emotions. Similarly, a comparison with perceptions and emotions of students and lecturers would be intriguing, given that they also provide feedback on conversation behaviour in simulation-based lessons. The methods selected for this study did not allow for investigating whether “trust in the relationship”, “congruence”, “acceptance” and “empathy” constitute independent characteristics nor for a closer inspection of the hierarchical relationships between them. However, there is evidence of an independence of the factors confidence, empathy, possibility to entrust oneself to someone and general satisfaction [8], which are indeed similar to the characteristics of the conversation we examined. Furthermore, it has not yet been possible to investigate the effects of patient-centred conversational behaviour in simulation on the students conducting the conversations. Studies on the extent of stress experienced by medical students through early patient contact in medical studies suggest that students whose actions are guided by the needs of the patient feel less stress [36].

**Conclusion**

The SPs in our study describe appropriate emotions as reaction to patient-centred conversation in the simulation setting. Therefore, we can assume that students influence the emotions of SPs through the adherence to patient-centred communication in the same way they influence the emotions of patients. Their training in patient-centred communication is therefore realistic.
Conclusion for the practice of working with SPs

SPs display adequate reactions to the application of patient-centred conversation and a lack thereof in roleplay. The reactions of SPs to “lack of acceptance” (negative) and “empathy” (positive) on the part of students were most pronounced. Hence, it can be established that SPs represent a valuable training asset for students learning to engage in professional physician-patient contact.

With regard to the protection of SPs, students should be made aware of the relevance of patient-centred communication for SPs, while SPs should in turn be better prepared for potentially negative experiences with students.

Acknowledgements

We would like to thank our simulation patients from the Medical University of Vienna for their honest and exciting interview contributions.

End of translation

2.1.4 Interlude

This study seeks to contribute to a better understanding of how students can influence SPs’ emotions and perceptions through the use of patient-centred communication. SP’s report a lack of patient-centredness as a cause of negative emotions and perceptions.

The results represent an initial contribution to understanding which mechanisms of patient-centred communication influence the emotions and perceptions of SPs and, furthermore, provide insight into its effects on SPs’ mental well-being. However, the impact of other important factors that influence the mental well-being of SPs remains unstudied. In particular, the effects of emotionally distressing patient roles as triggering factors and the use of transition techniques is a protective and health-promotion strategy used by SPs still remain unclear.
2.2 Further results

To measure the effect of patient roles as a triggering factor on SPs’ mental well-being and to explore the protective effect of transition techniques, a quantitative method was chosen. The SPs in the German speaking European world were taken as sample. The questionnaire was distributed online in Austria, Germany and Switzerland with support of the SP programs located at the universities organized in the “Gesellschaft für Medizinische Aus- und Weiterbildung (GMA)”. The questionnaire included general personal information, questions about the kind of portrayed patient roles, transition techniques, and about mental well-being in the dimensions of depressivity, somatization and anxiety. The detailed information about “Materials and Methods” is located in chapter 4.

2.1.1 The impact of patient portrayal as a triggering factor for reduced mental well-being of SPs

The second aim of the study is to explore the effect of patient portrayal as a triggering factor on SPs’ mental well-being. To attain this aim, the operationalization was solved in the following way. Three different aspects of potential negative impact of patient portrayal on SPs’ mental well-being were explored. Firstly, effect of the portrayal of generally emotionally distressing patient roles was explored over one SP season. The scores of SPs portraying general distressing roles were compared to scores of SPs not portraying them. Secondly, the effect of specific patient roles on mental well-being for one season was measured. Therefore, the scores of mental well-being of SPs who portray specific distressing patient roles were compared to those who do not portray specific distressing roles. Thirdly, the link between the duration of work as an SP and scores of mental well-being was investigated.

Mental well-being of SPs was measured in three dimensions: somatization, depressivity and anxiety. The reason for this was that SPs frequently portray patient roles from these three dimensions (40) and most empirically proven consequences of patient portrayal can be subsumed under these dimensions. The portrayal of patients receiving bad news and the portrayal of patients with psychiatric symptoms has been shown to be emotionally distressing for the actors (7). Mental well-being was measured before and after the SP season. In addition to this, we conducted a comparison of the scores in these categories of those SPs portraying emotionally distressing roles during the season (experimental group) with the scores of SPs portraying non-distressing roles in this period (control group). The values of the dimensions of mental well-being were transformed into T-scores to standardize the results. T-scores have the characteristics that they have a mean of 50 and the standard deviation is 10. There are 66 per cent of the cases located between the T-scores 40 and 60. The clinical relevance of reduced mental well-being in this study is above the T-score of 60.
There were 98 cases that were matched before and after the SP season. Matching the cases was ensured through a personalized code used by the participants. There was one case that eluded analysis because the person in question completed the post-condition questionnaire before the one enquiring about the pre-condition.

2.1.1.1 The portrayal of patient roles has no connection with reduced mental well-being of SPs

In order to determine the effect of patient portrayal, three different aspects of the pertaining question were examined with an analysis of variances (ANOVA). At first, to find out about the effect of patient portrayal in an entire SP season, the values of all SPs before the beginning of the SP season were compared with the scores after the SP season. Next, the effect of particular patient roles was explored. For this purpose, the values of SPs portraying emotionally distressing patient roles were compared to those of SPs not portraying these roles. Finally, in order to determine whether only one group of SPs (distressing patient roles or non-distressing roles) might show an effect over the period of an SP season, the interactive effect of distressing patient roles and the effect for one SP season was calculated. The means, standard devices and group sizes for each category of reduced mental well-being before and after the SP season are listed in Table 4.

Table 4: Descriptive statistics of mental well-being for emotionally distressing and non-distressing patient roles

<table>
<thead>
<tr>
<th>Patient roles</th>
<th>mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOM t1</td>
<td>47.30</td>
<td>8.14</td>
<td>27</td>
</tr>
<tr>
<td>SOM t2</td>
<td>45.00</td>
<td>8.00</td>
<td>27</td>
</tr>
<tr>
<td>SOM Total</td>
<td>48.68</td>
<td>9.34</td>
<td>97</td>
</tr>
<tr>
<td>DEP t1</td>
<td>45.22</td>
<td>6.62</td>
<td>27</td>
</tr>
<tr>
<td>DEP t2</td>
<td>45.52</td>
<td>7.12</td>
<td>27</td>
</tr>
<tr>
<td>DEP Total</td>
<td>47.59</td>
<td>9.60</td>
<td>97</td>
</tr>
<tr>
<td>ANG t1</td>
<td>46.44</td>
<td>6.96</td>
<td>27</td>
</tr>
<tr>
<td>ANG t2</td>
<td>48.79</td>
<td>9.27</td>
<td>97</td>
</tr>
<tr>
<td>ANG Total</td>
<td>47.86</td>
<td>9.63</td>
<td>97</td>
</tr>
</tbody>
</table>

1SOM=subscale for somatization  
2DEP=subscale for depressivity  
3ANG=subscale for anxiety  
All subscales are part of the BSI-18; t1=pre-condition, t2=post-condition
The scores were transformed into T-scores. Characteristics of T-scores are a mean of 50 and a standard deviation of 10. Relevant discrepancies from the norm are lower scores that 40 and higher scores than 60. That means in this study, the T-score of 60 is the critical value for clinical relevance of reduced mental well-being of SPs. In the table, all T-scores are lower than 50 which signifies that SPs report lower symptoms than the overall population. Of the 97 SPs in our survey, 27 SPs indicated that they played non-distressing roles, whereas 70 SPs reported one or more emotionally distressing roles.

In order to gauge the change in SPs’ mental well-being over one season of patient portrayal (main effect of time) and the effect that the portrayal of emotionally distressing roles compared to non-distressing patient roles has on mental well-being of SPs (main effect of group), an analysis of the variances in ANOVAS was conducted. In addition to this, the effect of one season on mental well-being was combined with the effect of distressing vs. non-distressing patient portrayal (effect over time under consideration of the group difference).

The first ANOVA showed no significant main effect of time (before season vs. after season) $F(1, 95)=3.012$, $p=.086$, no main effect of group (distressing roles vs. non-distressing roles) $F(1, 95)=1.944$, $p=.167$, and no significant effect over time under consideration of the group difference $F(1, 95)=0.903$, $p=.344$. Fig. 2 visualizes the results.

**Figure 2:** Mean scores for somatization before and after the portrayal of distressing and non-distressing patient roles

Fig. 2 illustrates that SPs who played distressing roles exhibited higher scores for somatization before and after the SP season in absolute scores. The results were not statistically significant.

There was no significant main effect of time on depressivity $F(1, 95)=0.052$, $p=.820$, nor on group on depressivity $F(1, 95)=2.674$, $p=.105$, and there was no significant effect between the
scores for depressivity under consideration of the group (distressing roles vs. non-distressing roles) over time $F(1, 95)=0.426, p=.516$. This is shown in Fig. 3.

Figure 3: Mean scores for depressivity before and after the portrayal of distressing and non-distressing patient roles

For anxiety, the main effect of time was $F(1, 95)=0.698, p=.405$, the main effect of group was $F(1, 95)=1.949, p=.166$, and the effect between the two groups (distressing vs. non-distressing roles) over time was $F(1, 95)=0.380, p=.539$. Once again, the results were not significant. Fig. 4 illustrates the results.

Figure 4: Mean scores for anxiety before and after the portrayal of distressing and non-distressing patient roles

The graph of the mean scores for anxiety showed a similar picture compared to the graphs for somatization and depressivity. Again, the results were not significant.

Looking at the graphs, it seems that although emotionally distressing roles may impair psychological well-being, none of the scores were statistically significant, which is why the
hypothesis of a negative impact on SPs’ mental well-being following distressing roles in general is rejected. However, this does necessitate a closer examination of the effect that specific distressing patient roles have on SPs’ mental well-being.

2.1.1.2 Particular distressing patient roles have no impact on specific categories of mental well-being

In a next step, a potential effect of the patient portrayal of single patient roles on specific dimensions of mental well-being was explored. The data was re-arranged allowing the calculation of the following effects. First, we explored if portraying somatic roles (“somatoform disorder”, “somatoform pain disorder”) have an impact on the scores in the subscale “somatization” in the BSI-18. Second, we ascertained whether the roles in receiving bad news (“life-threatening diagnosis”, “news of relative’s death”), and the roles in psychiatry (“major depressive disorder”, “suicidal patient”) have an impact on the scores for “depressivity”. Finally, we determined the impact of anxiety roles in psychiatry (“anxiety disorder”, “panic disorder”) on the scores for anxiety in the BSI-18. For this purpose, standard deviations and group sizes of each group were calculated. Additionally, an analysis of the variances was undertaken in order to establish a potential connection between the specific patient portrayal and the scores for mental well-being. Again, the analysis of the connection between the specific emotionally distressing patient roles and the specific dimensions of mental well-being was conducted with ANOVAS. The effect of distressing patient roles, the effect over one season, and the interactive effect were examined as described in the previous section.

Table 5 presents means, standard deviation and group sizes. The means are mostly lower than 50 and therefore the SPs report a similar number of symptoms as compared to the norm sample.
In order to identify any statistically significant effect of role portrayal over time and the effect of distressing roles over time, again, repeated measurement ANOVAs were computed.

At first, it was important to ascertain whether the portrayal of the patient role “somatoform disorder” over one season had an impact on SPs. The result of the repeated measures ANOVA for the main effect of time was $F(1, 95)=1.278, p=.261$. The main effect of group was $F(1,
95) = 1.273, p = .262. The difference of the points of time under consideration of the group of role portrayal was F(1, 95) = 0.002, p = .964. That means that in our data neither does portraying the role somatoform disorder for one season have an impact on the score for somatization nor is there a significant difference between the two groups over time. Results are shown in Fig. 5.

Figure 5: Pre and post scores for somatization of SPs portraying and not portraying “somatoform disorder”

The graph shows that the absolute scores of SPs who did not portray the role “somatoform disorder” are higher than the scores of those SPs portraying the emotionally distressing role. However, these results are not significant.

The ANOVA for the main effect of time of the portrayal of the role “somatoform pain disorder” on somatization was F(1, 95) = 2.971, p = .088. The main effect of group was F(1, 95) = 0.133, p = .717. The difference of the points of time under consideration of the group of role portrayal was F(1, 95) = 0.824, p = .366. This means that there is no significant effect of one SP season and there is no effect of one season under consideration of the portrayal of the patient role “somatoform pain disorder”. These results are shown in Fig. 6.
The results of the ANOVA for depressivity were as follows. The main effect of time was $F(1, 95)=.292, p=.590$, the main effect of group was $F(1, 95)=.485, p=.488$. The results for the portrayal “life-threatening diagnosis” for one season compared to not portraying the role “life-threatening diagnosis” for depressivity are $F(1, 95)=1.673, p=.199$. The scores for depressivity do not change over one season and there is no effect of one season under consideration of the portrayal of this role on depressivity. This is illustrated by Fig. 7.

The ANOVA results for the effect of the portrayal of the role “news of relative’s death” are reported in the following section. The main effect of time was $F(1, 95)=0.001, p=.972$. The main effect of group was $F(1, 95)=0.945, p=.334$. The result of one season under consideration of the group factor “life-threatening diagnosis” vs. “no life-threatening diagnosis” for depressivity was $F(1, 95)=0.432, p=.513$. Portraying the role “news of relative’s death” for one season has
no significant impact on the scores for depressivity and portraying the role during one SP season has no significant impact on the scores for depressivity compared to not playing the role. Fig. 8 summarizes the results.

Figure 8: Pre and post scores for depressivity of SPs portraying and not portraying "news of relative’s death"

The results for the portrayal of major depressive disorder are presented in the following section. The main effect of time was $F(1, 95)=0.25, p=.618$. The effect was not significant and, therefore, this study found no connection between the portrayal of major depressive disorder and the scores for depressivity over time. The main effect of group was $F(1, 95)=1.688, p=.197$. The effect over time under consideration of the group was $F(1, 95)=0.146, p=.618$. Again, this is not significant. The following Fig. 9 illustrates the results.

Figure 9: Pre and post scores for depressivity of SPs portraying and not portraying "major depressive disorder"
The graph shows that the absolute scores of SPs portraying major depressive disorder are higher than the scores of those who did not portray major depressive disorder. However, the results are not significant.

The results of the effect of one season for the suicidal patient were computed. The effect of one season was $F(1, 95)=0.297, p=.587$. The main effect of group was $F(1, 95)=0.952, p=.388$. The effect of the portrayal of the suicidal patient for one season compared to the effect of no portrayal of the suicidal patient was $F(1, 95)=1.953, p=.165$. These results once again show no significant effect. Neither was it found that those who play the role have more symptoms after the season nor that there is a difference between the two groups before and after the season. Fig. 10 shows these results.

Figure 10: Pre and post scores for depressivity of SPs portraying and not portraying “suicidal patient”

The ANOVA for the main effect of the role “anxiety disorder” before and after the season showed the following result: $F(1, 95)=2.847, p=.095$. The main effect of group was $F(1, 95)=1.921, p=.169$. The results for the group difference portraying the role compared to not portraying the role for one season was $F(1, 95)=1.301, p=.257$. Our study detected no significant difference between the two groups over one season. This is shown in Fig. 11.
The ANOVA for the main effect of the role “panic disorder” before and after the season showed the following results. The main effect of time was $F(1, 95)=0.748$, $p=.389$. The main effect of group was $F(1, 95)=0.253$, $p=.616$. The impact of the portrayal of this role for one season was not significant. The group difference for the portrayal of the role compared to not portraying the role for one season was $F(1, 95)=0.001$, $p=.975$. There was no significant difference between the two groups over one season. Fig. 12 illustrates these results.

In conclusion, there were no significant differences in the scores for specific distressing patient roles over time. In general, the scores of SPs portraying distressing roles were higher than the
scores of SPs who did not portray distressing roles. Exceptions were the roles of somatoform disorder and panic disorder. SPs who portrayed these roles had better scores for somatization and anxiety than SPs not portraying the role. The results suggest that there might be an effect of distressing roles but it was not potent enough and the sample size was not high enough to confirm this effect. Adding to this was the fact that group sizes differed and the experimental groups were small compared to the groups of the control group.

In our view, these results are positive because they indicate that SPs do not exhibit measurable impairment as a consequence of patient portrayal over one season. Hence, the suspected negative effect of role portrayal on SPs’ mental well-being could not (yet) be detected. The hypothesis is thus rejected.

There was no impact of role portrayal on mental well-being over one season. In a next step, the cumulative effect of the duration of SPs’ work over years was examined.

2.1.1.3 Reduction of symptoms after longer duration of work as an SP

To examine the effect of the duration of work on mental well-being, the number of years working as an SP was correlated with the scores for somatization, depressivity and anxiety. The underlying idea was that if the effect over one season might be too small to be detected there may be a cumulative effect of patient portrayal over years. Fig. 13 illustrates the distribution of the duration of work as an SP.

Figure 13: Duration of the work as an SP in years
The distribution shows a right-slanting normal distribution of the duration of work as SP. The category “10 years or longer” is a category that includes a longer duration than the other categories. Table 6 shows the correlations between duration and mental well-being.

Table 6: Pearson’s correlation of the duration of work as SP and scores for mental well-being

<table>
<thead>
<tr>
<th></th>
<th>Duration</th>
<th>SOM t2</th>
<th>DEP t2</th>
<th>ANG t2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>r</td>
<td>-0.084</td>
<td>-0.103</td>
<td>-0.012</td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
<td>0.415</td>
<td>0.313</td>
<td>0.905</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>97</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>SOM t2</td>
<td>r</td>
<td>-0.084</td>
<td>1</td>
<td>0.354**</td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
<td>0.415</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>97</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>DEP t2</td>
<td>r</td>
<td>-0.103</td>
<td>0.354**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
<td>0.313</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>97</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>ANG t2</td>
<td>r</td>
<td>-0.012</td>
<td>0.354**</td>
<td>0.660**</td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
<td>0.905</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>97</td>
<td>97</td>
<td>97</td>
</tr>
</tbody>
</table>

* Correlation is significant at a level of 0.05 (one-sided); **. Correlation is significant at a level of 0.01 (one-sided).

The duration of work as an SP shows no significant correlation with the scores for somatization, depressivity and anxiety. However, some significant correlations are visible in Table 6. This pertains to the correlation of somatization with depressivity and anxiety. This connection is well-documented in the literature as comorbidity and was not part of our research question. Nevertheless, these results suggest adequate quality of our data. SPs who reported symptoms in one category also reported symptoms in another category of mental health.

As mentioned by Woodward, as a result of the lack of emotional resources, SPs are dropping out of the SP programs (19). To clarify the existence of a more resilient group of SPs, the values of mental well-being of SPs who had taken up this work more recently were compared to those who had worked as SPs for a longer period of time. Subsequently, the sample was split into two groups and in each group the duration of work was correlated with the scores of mental well-being. The first group contained all SPs that had worked 1 to 3 years and the second group all those who had done so for 4 to 10 years. The threshold of three years was selected because it seems that after the duration of three years the number of SPs decreases.

Indeed, a significant small correlation was found between the duration of work and anxiety (r=-0.351, p=0.001), and between the duration of work and depressivity (r=-0.230, p=0.019). This means that those SPs who work from 4 to 10 years show less symptoms the longer they work.
By contrast, there was no connection between the duration of work and mental health outcomes in the early years of work as an SP. Therefore, the hypothesis was partly confirmed.

2.1.2 The protective effect of transition techniques

It is mentioned in the literature that SPs use techniques to exit the patient role and to deal with strong emotions associated with role portrayal (7, 86), and yet they have rarely been studied so far. These techniques could help SPs to minimize the consequences of patient portrayal and indeed prove helpful for other professions as well.

There is no information about the kind of transition techniques that are used by SPs. In order to obtain baseline information about these techniques, 22 SPs were asked in semi-structured interviews to explain what exactly they do after patient portrayal to leave the patient role behind. Three experts in the field of medical education categorized these techniques in subcategories in an inductive way following Mayring (118). Subsequently, the information about the kind of transition techniques was used to compile questionnaires and to identify a potential connection between mental well-being and the use of transition techniques. Table 7 lists the results regarding the kind of transition techniques that were reported in the interviews.

<table>
<thead>
<tr>
<th>Subcategory</th>
<th>Example of transition technique</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>physical TT</td>
<td>Jumping, shaking oneself, breathing, going for a walk</td>
<td>41</td>
</tr>
<tr>
<td>verbal TT</td>
<td>Talking to colleagues, saying sentence e.g. “I am myself, not the patient”</td>
<td>16</td>
</tr>
<tr>
<td>cognitive TT</td>
<td>Thinking about the lesson, thinking about feedback</td>
<td>16</td>
</tr>
<tr>
<td>mental TT</td>
<td>Going through the body in one’s mind, consciousness of body</td>
<td>16</td>
</tr>
<tr>
<td>distancing TT</td>
<td>Closing door of classroom consciously, stripping off, distraction</td>
<td>10</td>
</tr>
<tr>
<td>rewarding TT</td>
<td>Eating, eating chocolate, going shopping</td>
<td>3</td>
</tr>
<tr>
<td>SUM</td>
<td></td>
<td>108</td>
</tr>
</tbody>
</table>

The 22 SPs reported a total of 108 transition techniques in the interviews. The most frequent transition techniques used were physical techniques. The number of reported techniques confirms the high importance of these techniques for SPs. On average, every SP reported five techniques. Although SPs have a broad variety of techniques, there have been no publications which address these techniques to date and the present thesis in fact represents the first scientific work on this topic. The results were used to compile the online questionnaire to test the following hypothesis. The questionnaire is attached at the end of the thesis.

In a next step, the connection between the mental health status and the use of specific categories of transition techniques was analysed. In order to obtain information about the
frequency in which the SPs use various subcategories of transition techniques, it was decided to include all data pertaining to the post-condition. The frequencies and correlations are presented in Table 8.

<table>
<thead>
<tr>
<th></th>
<th>SOM</th>
<th>DEP</th>
<th>ANG</th>
</tr>
</thead>
<tbody>
<tr>
<td>physical technique</td>
<td>r</td>
<td>.027</td>
<td>.029</td>
</tr>
<tr>
<td></td>
<td>sig.</td>
<td>.360</td>
<td>.349</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>185</td>
<td>185</td>
</tr>
<tr>
<td>verbal technique</td>
<td>r</td>
<td>.081</td>
<td>.006</td>
</tr>
<tr>
<td></td>
<td>sig.</td>
<td>.138</td>
<td>.470</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>185</td>
<td>185</td>
</tr>
<tr>
<td>cognitive technique</td>
<td>r</td>
<td>.017</td>
<td>.023</td>
</tr>
<tr>
<td></td>
<td>sig.</td>
<td>.410</td>
<td>.380</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>185</td>
<td>185</td>
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<td>mental technique</td>
<td>r</td>
<td>0.007</td>
<td>.012</td>
</tr>
<tr>
<td></td>
<td>sig.</td>
<td>.462</td>
<td>.437</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>185</td>
<td>185</td>
</tr>
<tr>
<td>distancing technique</td>
<td>r</td>
<td>.239**</td>
<td>.246**</td>
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*. Correlation is significant at a level of 0.05 (one-sided); **. Correlation is significant at a level of 0.05 (one-sided). n=number of SPs using the TT

The 186 SPs who completed the questionnaire reported 502 transition techniques in total. The most frequent category was physical techniques, followed by cognitive techniques and distancing techniques. Two categories of transition techniques showed significant correlations with mental health outcomes. Distancing techniques were correlated with somatization, depressivity, and anxiety. The effect size is small. The group size of 98 SPs who use distancing techniques is sufficient to interpret these results. There is a positive correlation between the use of distancing techniques and mental health outcomes. Therefore, it can be assumed that SPs who recognize reduced mental well-being use one or more physical techniques. The causal direction cannot be interpreted on the basis of correlations. The most probable direction might be that those SPs who perceive reduced mental well-being want to counteract the symptoms and therefore use a higher number of techniques. Moreover, different directions of this impact are conceivable. The use of transition techniques itself may increase symptomatology, or there might be an external variable that influences the use of transition techniques and mental health scores. An interaction between transition techniques and
symptoms could be another possible interpretation. However, neither of the three directions of impact seems very realistic.

Rewarding techniques were correlated with depressivity and anxiety. Again, the effect size is small. The group size of 12 SPs who use rewarding techniques led us to view the result with caution, but our study nevertheless found a minor positive correlation regarding the connection of mental health outcomes and the use of rewarding techniques. This means those SPs who use rewarding techniques, e.g. “going shopping” or “eating sweets”, report more symptoms than those who do not use these techniques.

The SPs were able to enter their personal techniques in the questionnaire in three open fields, and SPs named another 87 techniques in the interviews that were not given in the questionnaires. Again, three experts categorized the results of these string variables. There were four categories found in the string variables. 28 SPs named “changing mask” as their personal technique, although the specific way they did this differed. Examples included “changing hairstyle” or “putting glasses on”. Ten SPs named transition techniques that could be categorized as “cleansing” in the open fields. Examples included “taking a shower” or “washing face”. There were four SPs who stated a “smoke-cleansing ritual” in the open fields. 13 SPs reported that they used no technique after patient portrayal. Together with the string variables, SPs reported a total of 576 techniques.

The results related to transition techniques show that they are widely used by SPs in the German-speaking world and have a positive connection to the mental health scores for somatization, depressivity and anxiety. The hypothesis can therefore be confirmed.

In conclusion, the results show that students’ behaviour influences the emotions and perceptions of SPs as triggering factors but also as health-promoting factors. Patient portrayal itself has no influence on mental well-being and therefore is not a source of reduced mental well-being of SPs. Transition techniques are a protective strategy that is frequently used by SPs. The connection between distancing techniques and reduced mental well-being suggests that those SPs who observe more symptoms in themselves are more likely to use distancing techniques as a health-promoting strategy. The significance of the results is discussed in the following section.
CHAPTER THREE: DISCUSSION

3.1 General Discussion

Students practise communication skills with SPs in roleplay at medical universities all around the world. SPs portray emotionally distressing patient roles to give students the opportunity to learn how to communicate with patients in emotionally intense situations. SPs report severe consequences of patient portrayal on mental well-being (7-9, 75). There is an urgent need to identify the factors that have a negative impact on SPs’ mental well-being to protect them from work-related reduced mental well-being after patient portrayal in communication skills training.

For the very first time, the present study explored emotions and perceptions of SPs in patient-centred communication as a reaction to the communication style of students. Indeed, the impact of emotionally distressing patient portrayal on mental health scores was never measured before. Finally, the use of transition techniques and the connection between their use and the mental well-being of SPs was explored. This is the first ever study to address transition techniques.

3.1.1 The link between patient-centred communication and emotions and perceptions of SPs

One finding detected for the first time in this study is that SPs’ emotions and perceptions are related to students’ communication style in patient-centred communication. SPs reported positive emotions in case patient-centredness was used by students and negative feelings in the absence thereof. Most positive reactions were reported in relation to a student’s empathic attitude, while negative reactions were reported mainly due to a lack of acceptance. Students influence the emotions and perceptions of SPs through patient-centred communication just like patients are influenced by doctors who use this communication style. The two main findings of the research objective in this thesis are: (i) SPs and patients react similarly to patient-centred communication. Therefore, SPs’ reactions to the behaviour of students are adequate for communication skills training. Hence, patient-centredness can be taught authentically with SPs. (ii) The communication style of students affects SPs’ mental well-being. The negative emotions resulting from a lack of patient-centredness represent a temporary state of work-related stress (119). As Frohn describes it, individual experiences in roleplay can change our lives (114). SPs are in a highly emotional state during the performance of the patient role and this makes them sensitive for behaviour that affects them in a positive or negative way. SPs’ negative emotions are induced by a lack of acceptance, and positive emotions by an empathic
attitude. On the one hand, situations in which the students show a lack of patient-centredness, mostly a lack of acceptance, can be a mental stressor and, therefore, act as a triggering factor for reduced mental well-being. On the other hand, SPs report positive emotions when students communicate in a patient-centred manner, especially when they do so with an empathic attitude. This behaviour of students can reduce stress and therefore may increase mental well-being. However, students influence the degree of stress SPs experience and should be made aware of this effect. Nevertheless, the emotional challenge is accepted by SPs as part of their work. Students inevitably make mistakes during communication skills training and are indeed allowed to do so. In sum, this study did not identify any effects on SP’s mental well-being as a result of patient portrayal.

3.1.2 The impact of patient portrayal on SPs mental well-being

This study is the first in the German-speaking world to measure the impact of emotionally distressing patient portrayal on SP’s mental well-being over an entire SP season. Contrary to our hypothesis, no effect of patient portrayal over one season was found. There are two possible reasons as to why no effect of patient portrayal on reduced mental well-being was found. Either the study failed to detect the negative impact of patient portrayal despite the occurrence thereof, or a general effect resulting from patient portrayal on SPs’ mental well-being simply does not exist.

Explanation 1: The (existing) effect of patient portrayal was not detected

Several explanations as to why the impact of patient portrayal was not identified appear conceivable. Firstly, the SP programmes in the German-speaking world have a broad toolkit of strategies to help SPs cope with patient portrayal. The consequences that SPs have reported in several studies (7, 8, 19, 75, 107) are known to the SP programmes and the responsible programme staff have in fact reacted to these findings. The measures which have been taken include contact persons for SPs, defining a clear structure for classroom roleplay, ensuring a clear separation of roles and a clear patient role specification, or offering supervision to SPs (120). These strategies help SPs minimize any systematic effects resulting from patient portrayal. An effect of patient portrayal itself is perhaps curbed by these strategies and, therefore, the effect might not be detectable in a sample. Future research should compare mental well-being of medical training SPs who use protective strategies to those who do not.

Secondly, the working conditions of SPs vary strongly. One recently published survey of Sommer and colleagues assessed the state of SP programmes in the German-speaking world. This survey points out that there is a great deal of variability in SP programmes in Germany, Switzerland, and Austria. Patient roles, the intensity of emotional portrayal, duration of
portrayal, duration of SP season, and hours of work as SP in particular differ so much that it is hardly possible to compare the working conditions of SPs. Therefore, it is not possible to standardize and generalize the use of SPs. The authors urge a higher standardization of content, methods, and organization (49). This insight underlines the dilemma for the quantitative assessment of consequences of patient portrayal. On the one hand, the circumstances for SPs differ widely from one university to another. On the other hand, at an individual university – where the same conditions apply to all SPs – there are not enough SPs to conduct a study with an adequate sample size. This could be the reason why so far there are mainly qualitative studies with focus groups and interviews instead of quantitative studies.

Thirdly, another reason why no effects of emotionally distressing patient roles were identified might be that the perception of which patient roles are distressing and which are not differs between individuals. The distinction between distressing roles and non-distressing roles was made based on general assumptions. The perception of one role as distressing might be linked to current personal circumstances at a given point in time, personality traits, and a personal history of diseases. Future research ought to ask SPs what role they perceive as emotionally distressing and measure the effect of the subjectively distressing roles over time.

Fourthly, one aspect that acts as protective factor for SPs’ mental well-being might be the large amount of information SPs have about the patient cases they portray. Many SPs appear to evolve into medical experts on the diseases they portray because they use medical information for their professional patient role preparation. As a consequence, they receive psychoeducation for the psychiatric patient cases automatically. Psychoeducation is used for the prevention of reduced mental well-being and is often one of the first steps in psychotherapy. Educating patients about their medical condition helps patients better understand their own state. SPs might recognize symptoms earlier and react more sensitively to the consequences of role portrayal and, therefore, may quit their job or reduce their role commitment when observing negative effects. Indeed, one study identified the benefits of SPs as patients in real life. SPs understand their own diseases better and are confident patients (121). In other words, the psychoeducation that the SPs receive through patient portrayal is a countermeasure to reduced mental well-being and can be seen as a protective factor for SPs. Boerjan found that an increase in information need not necessarily result in an SP’s better handling of their own illness but that it can produce different positive effects for SPs nonetheless. Some SPs were less concerned about their own symptoms compared to before they worked as an SP because they had more information about the actual symptomatology associated with various diseases. By contrast, other SPs felt more vulnerable because they were now familiar with a larger number of potentially threatening diseases (9). The handling of information about severe diseases that have to be portrayed in communication skills training may depend on individual
personality traits. Future research should identify those characteristics that are beneficial for confronting the more severe symptoms the portrayed patients suffer from.

Finally, the data seems to be a little too perfect in the area of normality. In general, actors are trained to be somebody else, in other words, telling lies is their business. Maybe, the SPs did not want to be detected as mentally strained and rather wanted to show the picture of being very normal and mentally healthy. The data protection was guaranteed but it is unclear if there the SPs trusted this information. The validity of the data could be questioned for this reason.

**Explanation 2: There is no general effect of patient portrayal on SPs**

However, well-being of SPs was not minored because of the patient portrayal during one season. It may be that there simply is no effect of role portrayal on SPs’ mental well-being. Needless to say, that would be good news. Yet why, then, do SPs report these severe consequences in interviews and focus groups? One reason might be that there is only a very small vulnerable group within the pool of SPs who report severe consequences of patient portrayal and the others are not affected by negative effects at all. If this is the case, it is important to find out the specific characteristics of the vulnerable SPs. These characteristics should be taken into account in the selection of new SPs to protect vulnerable individuals from negative effects of patient portrayal. SPs are used instead of real patients because they are meant to be more resilient than real patients. Vulnerable SPs would not have this advantage over patients. The greater resilience of SPs versus patients is assumed to exist precisely because SPs do not suffer from the symptoms they portray. In fact, the SP programmes do not learn about symptoms, demand information about the personal situation or mental health status of SPs. It is important to select SPs carefully before engaging them. However, conflicts between the patient role and the personal situations might not exist on the day of selection of the SP but may occur over time. The death of close relatives or receiving a severe diagnosis represent events which occur during a life span. A contact person might be helpful, but, then again, in severe cases it might prove to be anything but helpful for SPs to entrust themselves to someone who is involved at the workplace because of potentially negative consequences for their own employment. Some universities give the SPs the option to select one specific patient role that they do not want to portray. This solution is discrete and helpful in extreme personal situations that can be expected to occur over the course of life.

In our study, the duration of work as an SP was not the underlying factor that explained the connection between distressing role portrayal and mental well-being. Nevertheless, there was a significant negative correlation between the duration of work and the amount of reported symptomatology in the group of SPs who had worked as SPs four to ten years. These correlations cannot be interpreted causally, but we know from Woodward that in her study there were dropouts of SPs over time because of emotional consequences of patient portrayal.
This might be the reason why the SPs who had worked longer in their job had less symptoms. Possibly, only the most mentally stable SPs continue this work. It would be interesting to conduct a drop-out analysis and ask SPs who leave the SP programmes about their reasons for quitting. This would bring more clarity into the discussion. Another possible explanation might be that there is a habituation effect after some years of portraying emotionally distressing roles. SPs may get used to the consequences of distressing patient portrayal and develop their own techniques to cope with potential consequences after some years of work. Whatever the reason for this effect may be, it appears recommendable to keep the long-standing SPs in the programmes.

In conclusion, it seems that severely reduced mental well-being as a result of patient portrayal is not a mass phenomenon. The work as an SP may be mentally and emotionally demanding but, nevertheless, SPs generally know how to cope with the potential negative effects. There are SPs who report emotional and physical symptoms in interviews and focus studies, but in our study the impact of distressing patient portrayal on reduced mental well-being after one season could not be identified. It is important to underline that this is a positive finding both for SPs and the medical universities that employ them.

3.1.3 The value of transition techniques as protective strategy

This study is the first one to describe the transition techniques used by SPs. SPs use a high number of strategies to exit the patient role after roleplay. Overall, we found 576 such techniques reported by only 186 SPs. This high number of transition techniques shows the subjective relevance of these techniques for SPs. We were able to establish a positive correlation between the use of distancing techniques and reduced mental well-being. Reporting more symptoms of depressivity, anxiety, and somatization is associated with the use of distancing techniques. Correlations cannot be interpreted causally. Two directions of interpretation seem probable.

On the one hand, a direct effect is conceivable. The transition techniques influence mental well-being directly and SPs who recognize reduced mental well-being are therefore more likely to use transition techniques. When SPs recognize reduced well-being in the form of depressivity, anxiety, and somatization after role portrayal, they seek to distance themselves from these symptoms. They attempt to leave them in the classroom e.g. by closing the door behind them, leaving the building, or they literally try to strip them off. Another technique used when noticing anxiety and depressivity is self-reward. When mental well-being is reduced due to distressing patient portrayal the subsequent self-reward might increase well-being.
The other direction of interpretation of the correlation is indirect, via the moderator variable of stress. The use of transition techniques might reduce stress and be used by SPs for this very reason. Underlying this interpretation is the notion that the techniques reported by SPs are similar to techniques that are known to reduce symptoms of burnout and stress (122). Riffer, Kaiser, Sprung and Lore suggest relaxation, biofeedback, reduction of dysfunctional cognition and change of focus of attention for pain patients to reduce physical tension and to deal with emotionally demanding situations (123). SPs likewise use relaxation, change of focus of attention, and cognitive strategies. The influence that transition techniques might have on SPs’ mental well-being may act via the moderator variable of stress. Stress can influence the mental well-being of SPs as triggering factor. Even if the transition techniques do not have an impact on mental well-being directly, using some kind of mechanism after the distressing patient portrayal in a highly emotional state is stress-reducing for SPs. Having a strategy for stress reduction might minimize negative consequences after patient portrayal.

These findings are only a first step towards a better understanding of transition techniques. More research is needed to determine the impact of transition techniques. For example, a longitudinal study with an experimental design could measure the effect of transition techniques over time and allow for causal interpretations.

However, in the literature, similar techniques in the field of psychiatry and psychotherapy are associated with transition techniques. The techniques are used for burnout prevention or emotional regulation. The behaviour after roleplay in psychodrama therapy is quite similar to our findings concerning SPs’ transition techniques. Dropping a prop to the floor, doing a physical gesture, stripping off the role, and a step accompanied by a sentence are indicated as useful techniques. Conversely, neglecting the conscious transition can potentially lead to a blurring between an SP’s real personality and the role character later on (114). These techniques indeed appear to make sense for SPs, but might also prove beneficial for patients or health professionals who have to deal with patients’ highly emotional states and thus face difficult situations in their everyday work life. Transition techniques could help practitioners in several fields increase their mental well-being after distressing patient encounter. Future research should examine the benefits of transition techniques for stress reduction in other professions involving patient encounter.
3.2 Conclusion and future prospect

Learning how to communicate in emotionally challenging situations with the use of simulation patients is helpful with regard to a considerate and successful patient contact in later work life. SPs experience similar emotions and perceptions regarding empathy, a stable relationship, and an accepting attitude compared to patients in a doctor-patient encounter and, therefore, the reactions in roleplay are authentic and the feedback is based on authentic perceptions. However, being an SP entails a great degree of responsibility towards medical students and oneself. Overall, working as an SP is a challenging and sometimes emotionally distressing task, but there is no reduced mental well-being in the form of depressivity, anxiety, and somatization for SPs as a result of patient portrayal. SPs who continue to work for longer than 3 years in this job may have an advantage in mental well-being compared to SPs who have only just started portraying patients for the purpose of medical education. We still do not know the exact operating mechanisms that affect SPs in communication skills training. However, transition techniques are used by SPs to minimize the effects of patient portrayal. Those SPs who perceive reduced mental well-being resort more to distancing and rewarding techniques. This study corroborates the assumption that working as an SP does not significantly affect mental well-being in the form of depressivity, anxiety, and somatization.

Future research should try to standardize the emotionally distressing patient roles and collect more information about the content of the patient roles to render them comparable. In order to generate useful sample sizes, SPs in both German and English-speaking countries should be involved. This study certainly confirms that there is no significant impact of patient portrayal on SPs, but future research has to further substantiate this finding.

3.3 Recommendations for the use of SPs

Based on the results of this thesis, it is recommended to select SPs carefully and inform students about the impact that patient-centred communication has on the emotions of SPs. Experienced SPs who continue this work for longer than 3 years should be kept in the SP programmes. All SPs can generally portray emotionally distressing patient roles, albeit with one restriction: the SPs should not themselves suffer from the symptoms they portray. Only then do SPs have the advantage of resilience over real patients. SPs should receive training about transition techniques to deal with strong emotions.
CHAPTER FOUR: LIMITATIONS, MATERIALS & METHODS

4.1 Limitations

There are some limitations to this study. To begin with, there was the need to choose a quasi-experimental design. The only way to measure the effect of patient portrayal on SPs was to ask them before and after their performance in the context of medical education that takes place at universities. A real experiment would have had to monitor SPs portraying a high number of patient roles for several months exclusively for research purposes. This was not possible for financial and logistical reasons. Furthermore, there is a variability of conditions for SPs at the universities in the German-speaking world. The scripts for patient roles are not standardized. For example, the role “news of relative's death” always contains a person receiving information about a deceased relative, but the exact procedure differs. In addition, the duration of the SP season differs. Some SPs have to portray patient roles for periods up to one year while others portray the patients for several months only. Therefore, the variance in our data reflects the variance of the conditions for SPs. Another limitation is the small experimental group because there were not many SPs portraying distressing patient roles whose pre- and post-condition could be compared. Finally, the BSI-18 is not sufficiently sensitive to detect the change in mental well-being within a healthy population.

4.2. Materials & Methods

A multimethod design was selected in order to pursue the research objectives, comprising a qualitative and quantitative study (124). The materials and methods used for the first research objective that was studied with a qualitative design is explained in the first-author publication that is included in the results section of this thesis. On order to determine the effect on mental well-being as a result of patient portrayal (research objective 2) and transition techniques (research objective 3) a quantitative design was chosen. In this section, the material and methods of the quantitative design are presented.

4.1.1 Materials

To study the research objectives, data pertaining to SPs in Austria, Germany, and Switzerland was collected via an online questionnaire. The questionnaire was compiled in three different parts. The first part consisted of questions about general information, including age, gender and the duration of work as an SP in years. In order to ensure a correct match of SPs’ questionnaires before and after the SP season, they were asked to enter a code. This code
consisted of the first two letters of the first name of the mother and the first two letters of the first name of the father.

The second part of the questionnaire consisted of questions about the work as SP. Questions enquired about the kind of roles that were portrayed in the last season. It provided the opportunity to click on one or more portrayed patient roles that were predefined in a list. Respondents were able to complete three open fields with patient roles that were not in that list. Furthermore, the questionnaire included questions about the transition techniques SPs used after role portrayal. Again, there was a default list of transition techniques and it was possible to click on one or more transition techniques as well as completing open fields.

The third and last part of the questionnaire was the assessment of mental well-being in three different subscales. In order to obtain data about this aspect, the German version of the Brief Symptom Inventory in the short version with 18 items was selected (125). This instrument allows for efficiently obtaining concise information in three subscales concerning subjective impairment due to psychiatric symptoms of somatization, depressivity, and anxiety. The BSI-18 has adequate psychometric properties, Cronbach’s alpha for the subscales are $\rho= .63$ for somatization, $\rho= .85$ for depression and $\rho= .78$ for anxiety (126). Patients have significantly higher scores than the control group, which is primarily an indication of good criterion validity (126). This instrument was chosen to keep the part pertaining to mental health symptoms short so as to be feasible for SPs. The questionnaire is attached in the appendix.

4.1.2 Methods

4.1.2.1 Procedure

The questionnaire was distributed in the European German-speaking world: Germany, Switzerland, and Austria. The German-speaking countries were chosen because the number of SPs here is sufficient for our study. Moreover, the translation of the questionnaire into other languages would have reduced the reliability of our questionnaires. In order to access the SPs, the head of the “SP-Ausschuss” (SP-committee) of the “Gesellschaft für Medizinische Aus- und Weiterbildung” (Society for Medical Education and Advanced Training) was contacted. This society is organized in the mentioned countries in the field of medical education, and the SP-Ausschuss is where the organization of SP programmes converges. The head of the SP-Ausschuss was Christian Thrien, who assisted in distributing the online questionnaire to the heads of the SP programmes and encouraged them to send the questionnaire to SPs, as well.

One challenge concerning data collection was the heterogeneity of the SP programmes in the three countries. Not only do the semesters start at different points in time, but also the start,
duration and end of the SP season differs from university to university. Figure 14 shows the timeline of the SP seasons as examples.

Figure 14: Beginning and end of SP seasons at different universities (examples)

T1 is the first point in time and was selected as the pre-condition survey point at the beginning of the SP season. T2 marks the beginning of data collection for the post-condition at the end of the SP season at the different universities. There are three different examples shown in the illustration. In Mannheim, the SP season lasts from October to July and, therefore, a total of 10 months. In Vienna, the SP season starts in January and ends in July. The duration of the season is six months and most patient portrayal takes place in July when the SPs are used in the OSCE. In Berlin, at the Charité, the SP season lasts from October to January, a total of four months. In order to guarantee that the questionnaires were received by SPs at the right moment before and after the SP season, the link and the explanation was sent out per e-mail to the multiplicators via the mailing list of the SP-Ausschuss of the GMA at four different times between October and July. The first e-mail was sent in October 2016, the second in January 2017, the third in April 2017 and the fourth in July 2017. In the first e-mail, the link to the first part of the questionnaire was sent out. In the second and third e-mail, two links were sent. The link to the first questionnaire for the pre-condition and the link to the second questionnaire for the post-condition. In the e-mail text, the procedure was described and it was explained which link should be sent out to the SPs. In the fourth and final e-mail, only the link for the second questionnaire, i.e. for the post-condition, was sent out.
4.1.2.2 Participants

There were 257 SPs who completed the questionnaire for the pre-condition. After the SP season, 186 SPs completed the post-condition questionnaire. We were able to match 97 SPs in pre and post condition. The conditions for a correct match of the pre- and post-condition were the corresponding identification code and the same age or a higher age of one year in the post-condition. An inclusion criterion of a completion of the questionnaire of 80 per cent was chosen. There was one person who did not complete the part in the questionnaire of the Brief-Symptom Inventory (18 items version). Therefore, it was not possible to compile the data for the research question that refers to this data. There were two cases where participants completed the questionnaire more than twice and could be matched. In both cases, the first part was completed two times and the second part once. We decided to keep the first version of the first part of the questionnaire and the second part was deleted in order to ensure that the participants completed the first part at the earlier point of time. However, to minimize variance, the combined file for all questions concerning effects of role portrayal and transition techniques was used. In order to account for the high variety of transition techniques and the frequency of use, the file with the largest number of participants was used so as to obtain as much information as possible. The age of the participants was between 21 and 79 years. On average, the participants were 54 years old. They had been working as SPs for 4.5 years on average and there were 27 professional actors and 64 lay actors who took part in the study. There were 7 respondents who provided no information about their profession. There were 29 male and 68 female participants. One person gave no information about gender.
1. OECD (Organisation of Economic and Cultural Development) (2019). Medical graduates indicator


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LIST OF PUBLICATIONS


Butollo, M.A., Holzinger, A. Consequences of patient representation and effective transition techniques of Simulation Patients. Poster at the YSA-Symposium. 2016;


APPENDIX

Interview guide/Interview Leitfaden:

1. Erzähl doch einmal, wie fühlst du dich nach einem Einsatz? (bist du gut drauf, bist du schlecht drauf, wie geht es dir nach einem Einsatz?)
   - Negatives Gefühl wird berichtet → weiter bei 2
   - Positives Gefühl wird berichtet → weiter bei 3

2. Vielleicht kannst du an eine konkrete Situation denken, die im Spiel für dich belastend war. (PAUSE EINHALTEN) Was hat dich in dieser Situation belastet?
   - Kannst du diese Situation beschreiben?
   - Fällt dir noch eine belastende Situation ein?
   - Gibt es Verhaltensweisen von Seiten der Studierenden, die belastend für dich sind?

Was tust du nach einer solchen Situation/ solchen Situationen?
   - Kannst du beschreiben was du tust um aus der Rolle auszusteigen?

3. Kannst du an eine konkrete Situation denken, in der das Spiel wohltuend war.
   (PAUSE EINHALTEN) Was war für dich in der Situation wohltuend?
   - Kannst du diese Situation beschreiben?
   - Fällt dir noch eine wohltuende Situation ein?
   - Gibt es Verhaltensweisen der Studierenden, die wohltuend für dich sind? (Die dir gut tun, die gut für dich sind, wodurch es dir besser geht)

Was tust du nach einer solchen Situation/ solchen Situationen?
   - Kannst du beschreiben was du tust um aus der Rolle auszusteigen?

4. Gibt es noch etwas das das du hinzufügen möchtest?
Questionnaire first point in time / before SP season

[Questionnaire text]

1. First point in time / before SP season

[Form fields]

2. Second point in time / after SP season

[Form fields]

3. Third point in time / after SP season

[Form fields]

4. Fourth point in time / after SP season

[Form fields]
### Vizen Bank ER Treatment

#### Legino Stage

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-Treatment</td>
</tr>
<tr>
<td>2</td>
<td>Treatment 1</td>
</tr>
<tr>
<td>3</td>
<td>Treatment 2</td>
</tr>
<tr>
<td>4</td>
<td>Treatment 3</td>
</tr>
</tbody>
</table>

#### Follow-Up

- [ ] Post-Treatment 1
- [ ] Post-Treatment 2
- [ ] Post-Treatment 3

- [ ] [Post-Treatment 4]

- [ ] [Post-Treatment 5]

- [ ] [Post-Treatment 6]
Questionnaire second point in time / after SP season

Compared to the first questionnaire, only the introduction of the second questionnaire was different. All questions and the order of them were identically. Therefore, only the page of the second questionnaire where the introduction is located is attached.