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WEB PAPER

“Being-in-role”: A teaching innovation to enhance empathic communication skills in medical students

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Abstract

Background: The communication of empathy is key in physician–patient interactions. We introduced drama training in “How to act-in-role” to medical students and evaluated the effect of this.

Methods: A quasi-experimental design was employed, with 72 students in the control and 77 students in the intervention group. The students’ empathy scores were obtained using the Jefferson Scale of Physician Empathy (JSPE) during the introductory course. Both groups received tutorials in motivational interviewing and brief intervention skills. The students in the intervention group also received training in “How to act-in-role”. The JSPE was repeated for both groups. The students subsequently undertook observed structured clinical examinations (OSCE). Both tutors and students evaluated the student’s OSCE performance as well as their motivational interviewing skills using the Behavior Change Counseling Index (BECCI).

Results: Our findings show that while the students in both groups did not significantly differ in baseline empathy scores, the intervention group reported significantly higher empathy scores post-intervention. The intervention group also received significantly higher tutor ratings for their motivational interviewing (BECCI score) and overall OSCE performances. In conclusion, the teaching innovation “How to act-in-role” was effective not only in increasing medical students’ self-reported empathy but also their competence in consultation skills.

Studies have demonstrated that the communication skills of clinicians have considerable influence on patient satisfaction (Bertakis et al. 1991; Hannah et al. 2009), compliance (Squier 1990; Kim et al. 2004), and health outcomes (Kaplan et al. 1989; Stewart 1995). The communication of empathy is considered a key element in the success of clinician–patient interactions. An empathic doctor–patient relationship is important in developing a therapeutic alliance (Hojat et al. 2002a) and increases the patient’s motivation to actively participate in treatment (Miller et al. 1993). The communication of empathy is particularly relevant in motivational interviewing where the health practitioner or other helping professional communicates information in an attempt to effect the relevant behavioral change such as smoking cessation, weight loss and alcohol cessation (Miller et al. 1993). In addition to improving therapeutic relationships, clinicians who are empathic also benefit from higher job satisfaction and less malpractice litigation (Livinson 1994). Alarming, there is a growing public perception that clinicians might have become too “detached” to care (Safran 2003), and this perception has been further reinforced by cross-sectional and longitudinal studies on the decline in the manifestation of empathy among medical students (Chen et al. 2007; Hojat et al. 2009).

Empathy can be considered to have both cognitive and emotional domains. It involves the ability to understand another person’s inner experiences and feelings, while at the same time linking these to how one might experience these

Practice points

- Empathy is essential for improving clinicians’ communication skills and fostering and maintaining meaningful clinician–patient relationships.
- Both cross-sectional and longitudinal studies have shown that medical students’ empathy level deteriorated during medical education.
- Drama training in “How to act-in-role” facilitates medical students’ communication of empathy.

feelings oneself but at the same time avoiding “joining with the patient’s feelings” (Aring 1958; Gianakos 1996; Hojat et al. 2003; Chen et al. 2007; Hojat et al. 2009). This differentiates empathy from sympathy, which is the act of “joining” with the other person’s feelings and experiences and which may not be particularly helpful in the clinician–patient relationship as it could lead to lack of objectivity or emotional fatigue (Hojat et al. 2003).

It has been acknowledged that it is not easy to teach health professionals or students to be empathic (Spiro 1992). The extent to which students can learn empathic skills and the best manner of teaching and assessing them remains an empirical question to be answered. Despite the fact that empathy is an important contributor to good client–professional relationships, it is usually only taught in a context where it is not

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formally assessed. Several tools are available to measure empathy in the general population, for example, Hogan's (1969) Empathy Scale and Davis' (1983) Interpersonal Reactivity Scale. However, these tools were not specifically developed to measure empathy among health practitioners, and hence might not capture the essence of empathic clinician–patient relationships (Hojat et al. 2005).

Hojat et al. (2001) developed the Jefferson Scale of Physician Empathy (JSPE), a 20-item self-report scale to measure empathy specifically among medical students, residents and clinicians. Evidence in support of the construct validity, predictive validity, internal consistency as well as test–retest reliability has also been reported (Hojat et al. 2001, 2002a, 2005). Hojat et al. (2002a) examined the relationship between empathy scores and academic performance among third-year medical students at Thomas Jefferson College in Pennsylvania. They reported that medical students' empathy scores were significantly related to ratings of clinical competence. Students with higher empathy scores were given higher clinical competence ratings in six major clerkships, namely family medicine, internal medicine, obstetrics/gynecology, pediatrics, psychiatry and surgery. More recent studies have also shown the JSPE to have acceptable internal consistency in research among Polish (Kliszcz et al. 2006), Iranian (Shariat et al. 2010), and Japanese clinicians (Kataoka et al. 2009).

A systematic review of empathy in medical education by Stepien and Baernstein (2006) identified that empathy, as measured by written self-report and assessments by trained tutor, may be improved by a number of interventions. These include communication skills workshops addressing the behavioral dimension of empathy, reflective writing seminars, and theatrical performances. Seven of the eight studies (87.5%) reported showed an increase in quantitative measures of empathy, namely student self-reports, written empathy test, and tutor-rated observations, from pre- to post-intervention. The five studies that employed control group research design also showed significantly higher scores in favor of the intervention group. However, the reviewed studies were limited by the varying definitions of empathy, small sample sizes, lack of control groups, and variation in the measures of empathy used in the studies. Also, the durability of change cannot be estimated because it was tested in only two of the reviewed studies.

More recently, Fernandez-Olano et al. (2008) evaluated the impact of clinical interviewing training, which was conducted in the form of communication workshop, on medical students' and residents' manifestation of empathy using JSPE. They found a significant increase in JSPE scores in the experimental group while no significant increase was observed in the controls. This study aimed to address the gaps in empathy research using a quasi-experimental design to compare students' performance in the control versus intervention cohort. The estimated minimum sample size for power to detect significant difference was 50 per cohort. JSPE was adopted as a validated self-report measure of empathy, in addition to observed empathy achieved during motivational interviewing and in the overall performance of consultation skills.

This study

The aim of this study was to assess the effectiveness of a teaching innovation, drama training in "How to act-in-role", and thereby facilitate medical students' communication of empathy. The main hypothesis is that the drama training would enhance learning through role-play by encouraging medical students to consider another worldview, and thus gain role empathy. Consequently, the following specific research hypotheses were tested: the empathy level of medical students in the intervention group (as measured by JSPE) would increase following the teaching innovation (drama training). Consistent with Hojat et al.'s (2002a) findings that medical students with higher empathy scores obtained higher ratings of clinical competence, it was hypothesized that the medical students in the intervention group would demonstrate higher competence in consultation skills.

Method

Setting and participants

The setting for this educational intervention was the Psychological Medicine module taught to fifth-year undergraduate medical students at the University of Otago, Wellington School of Medicine and Health Sciences, New Zealand. Year 2009 students served as the control group while the Year 2010 students were the intervention group in this study. Two male and two female students declined to participate in the study, leaving 72 participants (33 males; 39 females) in the control group. All the students, 77 participants (32 males; 45 females) agreed to participate in the intervention. Participants' ethnicity data were not collected as any analysis by ethnicity could lead to the inadvertent identification of individual student participants, and this study was not powered for statistical analysis by gender or ethnicity.

Ethical approval was obtained from the University of Otago "B" process for research on human subjects. A key ethical consideration was blinding of the tutors and student assessors to the students who were or were not participants. This was important to ensure integrity of the research and prevent assessment bias.

Materials

Measure of empathy

The JSPE (Hojat et al. 2001, 2002b, c) is a validated, 20-item self-report measure used in this study to measure empathy in the context of patient care among health professionals. All the items are rated on a 7-point Likert scale, with 1 being "Strongly Disagree" and 7 being "Strongly Agree". Examples of these item statements are "Patients value a physician's understanding of their feelings which is therapeutic in its own right" and "I believe that empathy is an important therapeutic factor in medical treatment". Satisfactory psychometric properties with Cronbach's alpha coefficients ranging from 0.87 to 0.89 have been reported among medical students and internal medicine residents (Hojat et al. 2002c).

Measures of clinical competence

The Objective Structured Clinical Examination (OSCE) is now accepted as a valid and reliable measure of clinical competence (Petruša et al. 1990; Carraccio & Englander 2000). In the OSCE, the variables and complexity of the examination are controlled and its aims are clearly defined (Harden et al. 1975). The student is given a brief introductory note outlining the clinical scenario and the task expected of them. The marking is objective and the marking schedule is decided on in advance with the examiner using a structured marking sheet (Rutala et al. 1991). In this research, the marking was done both by the examiner and by the student (on self-assessment of the OSCE video recording). The student self-assessment was an additional component of the learning experience for the students, as it involved some self-reflection and a viewing of themselves in the role of a clinician. Student self-assessment was not the primary outcome measure.

The 11-item Behavior Change Counseling Index (BECCI; Lane et al. 2005) rated on a 5-point Likert scale (0, not at all; 4, a great extent) was used to assess medical students' competence in consultations about behavior change. The BECCI items could be subdivided into four domains: agenda setting and permission seeking, the how and why of change in behavior, the consultation as a whole, and talk about targets. Some of the sample item statements are "Practitioner invites the patient to talk about behaviour change", "Practitioner demonstrates sensitivity to talking about other issues" and "Practitioner encourages patient to talk about current behaviour or status quo". The internal consistencies of the scale were acceptable with Cronbach's alpha ranging from 0.71 in the baseline consultations to 0.63 in the final consultations. The mean across all 11 items was calculated to derive medical students' BECCI scores. Mean substitution was used for items that were marked as "not applicable" to the consultation scenarios (Detailed manual for coding and scoring BECCI can be obtained from <http://www.uwcm.ac.uk/csu>).

Procedures

All fifth-year Medical students were given the first JSPE during the Introductory Course before commencing the Psychological Medicine module (Time 1). They also received a briefing about the education research project and participant informed consent was sought from them. The Psychological Medicine module runs six times a year, for successive small groups (Group A to F) of 12 to 14 students. The module includes a seminar about brief intervention, motivational interviewing with examples of how doctors and patients can use motivational interviewing and brief intervention to discuss substance use/abuse issues, and a role-play workshop. The role-play workshop was conducted using a pre-set teaching plan and pre-tested case scenarios. The workshop was taught by two from a team of four addiction health practitioners who are also experienced tutors in brief intervention. Students completed the JSPE again after the workshop (Time 2).

The control group (2009 student cohort) attended all the above seminar and workshop sessions in the Psychological Medicine module. The 2010 intervention group also had a 1-h

actor-facilitated teaching innovation on "How to act-in-role". To ensure fidelity, this teaching innovation was conducted by the same actor for each of the six student rotating groups. The "How to Act-in Role" intervention is a workshop run by a theatre skills tutor and is a brief introduction to some acting skills and methods that focused on enhancing the participants' capacity to connect with their patients, listen to what they are saying, observe their body language, pick up interpersonal cues, and improve their interpersonal and interactive skills. During the course of the workshop, the participants used these skills in a series of role-playing five training scenarios during which time they would take the role of both patient and clinician. The five training scenarios covered routine clinical enquiry by a doctor to assess patients for alcohol and/or drug use and associated risks.

The end-of-module OSCE also involved pre-tested case scenarios covering different but related topics of alcohol cessation planning, clinical assessment of alcohol abuse and benzodiazepine dependency, information sharing about schizophrenia, medication for post-natal depression, bipolar disorder, and medication adherence. The end of module OSCE performance for each student was marked by (the same) tutor at the time and was also digitally recorded. All students were asked to self-mark their OSCE clinical performance and also use the BECCI tool, self-grading attitudinal attributes empathy and consultation skills. An independent reviewer (a visiting professor of psychology) later reviewed the OSCE videos and also graded these using BECCI, as a test for inter-rater reliability.

All students undertook all aspects of the program; however, participation in this study was voluntary, and only data from consenting students were collated, stored, and analyzed for the purpose of this study. Participants' JSPE, BECCI, OSCE score sheets and OSCE video recordings were all coded with a unique identifier, cataloged and stored digitally in an encoded archive. The participants' codes were stored separately from the data with restricted access to that code to ensure that the tutors remained blinded to which of their students were research participants.

Statistical analyses

Analysis was performed by a research team member who was not involved in student teaching and assessment (BTL), to ensure blinding of staff involved in student teaching and assessment. The analyses were performed in SPSS for Windows (version 16.0), and a *p*-value of less than 0.05 was considered as significant. Any missing data were automatically adjusted for in each analysis.

Results

Empathy scores

Analysis of the difference in pre- and post-intervention empathy scores for the control and intervention groups, used a 2 × 2 (empathy [Time 1 vs. Time 2] × condition [control vs. intervention]) repeated measures analysis of variance (ANOVA) was conducted (Figure 1). A significant main effect

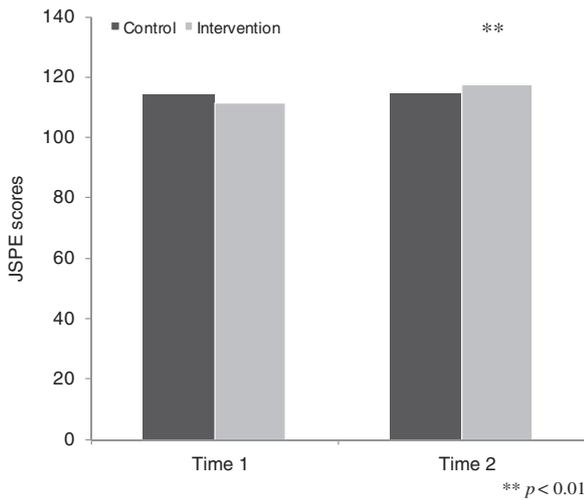


Figure 1. Pre- and post-intervention JSPE scores for control and intervention groups.

of time, $F(1, 125) = 12.10, p < 0.001, \eta_p^2 = 0.10$, as well as significant time \times condition interaction, $F(1, 125) = 11.36, p < 0.001, \eta_p^2 = 0.10$ were found, suggesting that medical students in the intervention group reported significantly higher empathy scores than students in the control group at Time 2 (post-intervention). The students' pre-intervention empathy scores were examined with independent samples *t*-test, and no significant group difference in pre-intervention empathy scores was reported ($p > 0.05$), suggesting that both groups of students had comparable Time 1 JSPE scores. Time 2 mean JSPE scores did not differ significantly across each year cohort, even though successive student rotations were taught the skills at different points over the year, as the cohorts progressed through the curriculum.

BECCI scores

Independent samples *t*-tests were used to assess group differences in tutor and students' self-ratings. Figure 2 shows the tutor and student self-rated BECCI scores for both groups. Tutors rated medical students in the intervention group as having higher competence in consultations about behavior change, as indexed by BECCI scores, than students in the control group, $t(140) = -4.60, p < 0.001$. Tutors' BECCI ratings also significantly correlated with the students' self-rated BECCI ratings, $r(138) = 0.66, p < 0.001$, suggesting that the medical students were reasonably accurate in rating their consultations competence. Although students in the intervention group rated themselves as more capable in consultations about behavior change than their counterparts in the control group ($M_{intervention} = 2.57; M_{control} = 2.43$), that difference was not statistically significant ($p = 0.12$).

OSCE performance

Medical students' OSCE performances were also of interest, as a measure of competence in clinical communication. Independent samples *t*-tests were used to examine group differences in tutor and student self-rated OSCE performance.

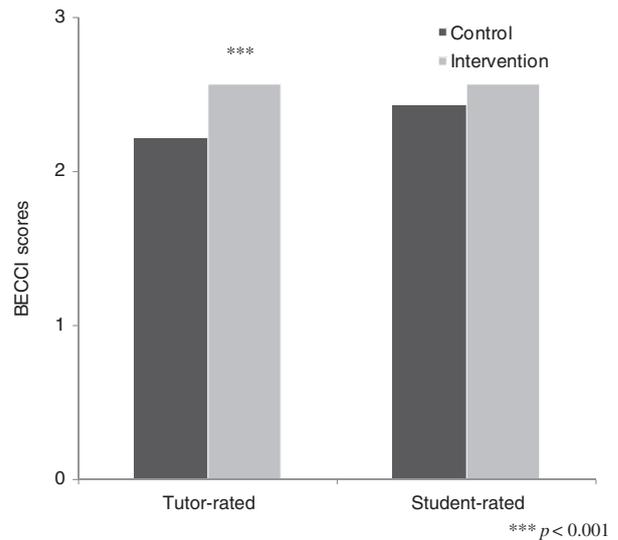


Figure 2. Pre- and post-intervention BECCI scores for control and intervention groups.

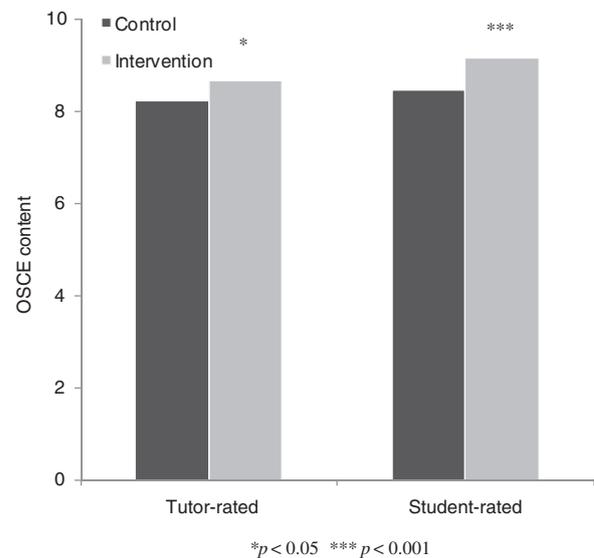


Figure 3. Pre- and post-intervention OSCE content scores for control and intervention groups.

As shown in Figure 3, tutors rated students in the intervention group as having significantly better OSCE performance than students in the control group, $t(141) = -1.87, p = 0.04$. Tutor-rated OSCE performance was significantly associated with students' self-OSCE ratings, $r(142) = 0.41, p < 0.001$. Medical students in the intervention group self-rated OSCE performance as significantly better than the control students, $t(140) = -2.83, p = 0.005$.

Gender difference

Table 1 displays the means and standard deviations of the measures separated by gender. No significant gender difference was observed for all the measures ($ps > 0.05$).

Table 1. Means and standard deviations of outcome measures, separated by gender.

	Male		Female		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Time 1 JSPE	5.68	0.46	5.68	0.52	0.54
Time 2 JSPE	5.76	0.42	5.83	0.52	0.43
Tutor-rated BECCI	2.37	0.50	2.40	0.48	0.74
Student self-rated BECCI	2.55	0.53	2.45	0.51	0.27
Tutor-rated OSCE	8.34	1.39	8.49	1.52	0.54
Student self-rated OSCE	8.88	1.27	8.73	1.61	0.54

Discussion

There is no doubt that communication of empathy is an essential component of good clinician–patient relationships (Hojat et al. 2002a; Kataoka et al. 2009; Shariat et al. 2010). Reports of public perception of medical practitioners detached in addition to cross-sectional and longitudinal evidence of the decline in medical students' empathy are alarming (Hojat et al. 2004, 2009; Chen et al. 2007). This study represents a step toward designing and implementing teaching intervention that would enhance medical students' learning of clinical empathy.

Our findings suggest that just 1 h of the actor-facilitated teaching innovation “How to act-in-role” was effective not only in increasing medical students' empathy but also their competence in consultations about behavior change, indexed by BECCI scores, as well as the students' OSCE performance. Consistent with Fernandez-Olano et al. (2008), our results suggest that portrayal of empathy is a skill that can be taught and acquired through practice. The actor-facilitated session had helped students think in role as patients, and therefore gain empathy as a result of placing themselves in the patient's shoes. A prior criticism of JSPE is that as self-report measure of empathy, it might not reflect the actual behavior during consultations (Hojat et al. 2007), but our study also used measures of observed communication performance (BECCI and OSCE scores). The teaching intervention has demonstrated effectiveness in increasing not only student self-report empathy scores, but also tutor-rated brief intervention skills and clinical communication overall, under OSCE conditions. Consistent with Hojat et al. (2002a), medical students in the intervention group in this study were given higher OSCE ratings overall by the tutor. This is consistent with recent research showing significant associations between self-report empathy scores and ratings of clinical competence given by residency program directors (Hojat et al. 2005) as well as with patients' perceptions of their clinician's empathy (Glaser et al. 2007).

While some studies find females to have higher mean empathy scores using JSPE than males (Hojat et al. 2002a, 2003; Fernandez-Olano et al. 2008; Sherman & Cramer 2005), others have not observed such gender difference (Hojat et al. 2004; Kliszcz et al. 2006; Chen et al. 2007). This study found no significant gender differences in pre- or post-intervention measures, but a larger sample size would be necessary to confirm that finding.

A strength of this study was the use of an empathy self-report score (JSPE) and a brief intervention score (BECCI) and the overall perception of competence using OSCE. JSPE was a well-validated tool designed for this purpose. A possible alternative measure to BECCI is the MITI, which has been used by other research teams (White et al. 2007), and which does include some additional measures of empathy. BECCI was chosen on advice of a statistician that this would be easier to analyze for tests of significant differences. Comparison of the performance of BECCI and MITI could be undertaken; we repeat components of this research at a later date.

This study is limited to short-term gain in empathy, and the research team is currently following up the cohorts to demonstrate retention of learning at 1 year and beyond. As pointed out by Hojat et al. (2009), longitudinal studies are vital in examining changes of empathy in the same group of students at different stages of medical education.

This study has taken considerable steps to blind tutors to consenting and non-consenting student, also distancing the tutors from data collection, collation, and analysis. It was not possible to blind tutors to knowledge of the cohort exposure to the intervention, but students themselves were unaware which educational exposure they had received. The differences in student self-rating between the control and intervention cohorts and the correlations between tutor's and students' self-ratings provide some reassurance that tutor awareness was not an important bias.

This study used only undergraduate medical student participants. It is possible that medical students within a graduate entry program may have better developed communication skills including better manifestation of empathy. Empathy training has multidisciplinary applications. They are applicable not only to medical practice, but also to all health practitioners and other professions where direct people contact is involved, namely teachers, social workers, and police officers. It would therefore be of interest to compare the skills of medical students with those of other health professional trainees. Plans are underway to repeat this research with nursing students, clinical psychology trainees, and community-based pharmacists.

Good clinician–patient relationship is dependent upon medical professionals being responsive to opportunities to communicate empathy when these situations are raised by patients (Easter & Beach 2004; Fernandez-Olano et al. 2008). Unfortunately, Easter and Beach's (2004) survey of medical professionals indicated that 70% of the opportunities to communicate were lost. Research in our own setting also shows that consultation opportunities are often lost (Moriarty et al. 2009).

We suggest that teaching and learning of empathy skills hold great promise for both patient care and health practitioners' wellbeing. Our findings suggest that any perception that empathic skills are entirely intrinsic or acquired instinctively, or that the ability to manifest these skills is merely a matter of common sense is incorrect. This perception might stem from a lack of awareness of the unique nature of consultation skills in clinical settings. In clinical consultations, for instance, the expectation of reciprocity and equal sharing of conversation differs from that which occurs in everyday

conversations (Hannah et al. 2004, 2009). In order to successfully communicate empathy, the clinician requires a high level of awareness of the undercurrents within the interaction, and an ability to analyze the evolving nature of the clinical interaction and capacity to adjust the approach to patient communication accordingly. This flexibility and appropriate reactivity is intrinsic to the role of an empathic health professional. It is the raising of awareness of this role that we believe, will contribute to more successful acquisition of empathic skills. A significant contribution to this can be made through an actor-facilitated teaching innovation.

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Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

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MARK HUTHWAITE is a medical practitioner with his vocational registration in psychiatry. Mark is also a senior lecturer and the convenor for fifth-year medical student training in the Department of Psychological Medicine. He is also a specialist in maternal mental health and works at a private practice part-time.

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