

Medical Student Empathy and Breaking Bad News Communication in a Simulated Consultation

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ABSTRACT

Objectives: This study examined the relationship between self-reported empathy and breaking bad news (BBN) communication skills performance in a sample of undergraduate medical students (n = 100) in the clinical years of their programme.

Methods: Correlational and regression analysis examined the relationship between Jefferson Scale of Physician Empathy (JSPE-S) and Empathy Quotient (EQ) scores, and communication skills performance based on students' application of the SPIKES protocol to a BBN scenario in a simulated encounter.

Results: Higher BBN communication skills performance was positively correlated with scores on the "Social Skills" EQ sub-scale ($r(99) = 0.31, p = 0.002$), which measures spontaneous and context-independent use of social skills. Multiple regression confirmed that "Social Skills" sub-scale variation predicted BBN score variation ($B = 2.17, 95\% \text{ CI} = 0.65\text{--}3.69, p < 0.01$). A weak positive association was also observed between BBN score and the "Standing in Patient's Shoes" JSPE sub-scale ($r(99) = 0.22, p = 0.03$).

Conclusions: Findings suggest that specific aspects of dispositional empathy may moderate BBN communications skills competence in medical students.

Practice Implications: Better understanding of moderating role of personality may lead to more tailored BBN communications skills training interventions and improved transfer of skills to workplace settings.

KEYWORDS: Breaking bad news; Communications skills; Empathy; Medical students; Simulation

1. INTRODUCTION

Good physician-patient communication is associated with better patient outcomes and higher levels of patient satisfaction with healthcare quality [1, 2]. Conversely, poor communication, particularly where physicians are required to deliver bad news ('breaking bad news') about acute or chronic life-limiting illness, can have negative effects on patient outcomes and satisfaction [3].

Breaking bad news (BBN) is challenging for any healthcare professional, requiring social and communicative competence; students and medical trainees frequently report being uncomfortable with this task, notably due to a lack of training opportunities [4]. In an educational context, while international best practice suggests that BBN should be taught via progressively complex simulated scenarios throughout medical education, BBN training and education is often fragmented and limited in undergraduate medical education [5]. Recent research has produced robust supporting evidence on the effectiveness of a diverse set of communication skills interventions [6], but these programmes sometimes fail to improve empathy [7-9], and patient outcomes in oncology [10]. These inconsistent findings may reflect the modulating influence of personality factors, particularly dispositional empathy, on the development and performance of communication competencies in BBN contexts.

Therefore, we investigated the correlation between medical students' self-reported empathy using two different scales purporting to measure distinct facets of both affective and cognitive empathic processes, and performance in a BBN communication skills assessment in a simulated patient encounter.

2. METHODS

2.1 Study Design and Participants

This study was conducted in University College Cork (UCC) medical school in a cohort of Year 3 and 4 students during the academic years 2017/2018 and 2018/2019. The School of Medicine offers a systems-based integrated 5-year undergraduate curriculum with early patient contact and full-time clinical placements in the latter 2.5 years of the programme. This study was approved by the Clinical Research Ethics Committee of the Cork Teaching Hospitals in University College Cork.

2.2 Instruments

2.2.1 Jefferson Scale of Physician Empathy (JSPE)

The Jefferson Scale of Physician Empathy (JSPE-S) was used to **measure both cognitive and emotional empathy in medical students**. It is a self-administered 20-item tool (all items answered on a seven-point Likert scale) which includes three sub-scales (“Perspective-taking”, “Compassionate Care”, and “Standing in Patients’ Shoes”) answered on a seven-point Likert-type scale [11]. The JSPE total score ranges from 20 to 140, with higher values indicating a higher degree of empathy [12].

2.2.2 Empathy Quotient (EQ)

The EQ scale is a 60-item questionnaire, where study participant must rate statements based on level of agreement (i.e. "strongly agree", "slightly agree", "slightly disagree", or "strongly disagree"). The 40 items truly measuring the empathy are scored from 0 to 2, with higher scores indicating higher empathy. Previous factor-analytic studies distinguished three EQ subscales labelled “Cognitive Empathy”, “Emotional Empathy”, and “Social Skills” [13].

2.2.3 BBN Communication Skills Assessment

As part of their summative assessment medical students take an OSCE at the end of the 4th year. They are assessed by faculty members on a range of clinical skills with one station specifically focussed on communication skills. This involves breaking bad news (BBN) to a simulated patient, a task requiring social and communicative competence. Several recommendations for the delivery of bad news have been established, the most well-characterised being the SPIKES protocol [14], a six-step protocol initially developed in the context of cancer care [15]. The acronym SPIKES refers to six steps recommended for breaking bad news: (a) setting up the interview; (b) assessing the patient's perception; (c) obtaining the patient's invitation; (d) giving knowledge and information to the patient; (e) addressing the patient's emotions with empathic responses; (f) strategy and summary [14]. A marking sheet was developed based on the student's application of the SPIKES protocol to the BBN scenario outlined below (Table 1). The assessment score range was 0-50.

The BBN assessment required the student to communicate to the patient, a 36 -year-old lady, a probable diagnosis of multiple sclerosis, and to inform her that she needed to start treatment as soon as possible. Students had one minute to read instructions and nine minutes to complete the station.

2.3 Procedure

The questionnaires were distributed via email link to Year 4 medical students at UCC during January-May 2017 and January-May 2018. Participation was voluntary and not linked with course credits. The JSPE, EQ and socio-demographic questions were hosted online on the Typeform survey platform (<https://www.typeform.com/>). Breaking bad news communication assessments were completed by Year 4 students in April 2017 or 2018.

Pearson's correlation co-efficient (r) and multiple linear regression were used to establish associations between BBN communication skill scores and total and sub-scale scores for the JSPE and EQ. For all analyses, a p value < 0.05 was considered statistically significant. All statistical analyses were completed using SPSS V.20 (IBM, New York, New York, USA).

3. RESULTS

3.1 Study Demographics

100 students participated in this study, denoting a response rate of 24.1% (91/415). Age of participants ranged from 21 to 31 ($M = 24.0$, $SD = 2.26$), and 56% ($N=56$) of the sample was female.

3.2 Correlations between communications skills assessment scores and EQ, and JSPE

Spearman's correlations were computed between the BBN scores and the total and sub-scale scores for the EQ and JSPE; data are presented in Table 2. The results demonstrate a moderate positive correlation between BBN communication skills performance and scores on the "Social Skills" EQ sub-scale ($r(99) = 0.31$, $p = 0.002$), and a weaker but statistically significant positive correlation with the "Standing in Patient's Shoes" JSPE sub-scale ($r(99) = 0.22$, $p = 0.03$). Examining the degree to which self-reported empathy scale variation influences BBN communication skills performance, multiple linear regression analyses were conducted. Table 3 summarises the factors affecting BBN score variation in the present sample. The "Social Skills" EQ sub-scale positively predicted BBN score variation ($p < 0.05$).

3.3 Influence of demographics

Female students reported higher values on the “Emotional Empathy” sub-scale of the EQ ($t[97]=1.53$, $p=0.002$), but no significant effect of gender or age was observed for other scale measures or BBN score (all $p > 0.05$).

4. DISCUSSION AND CONCLUSION

4.1 Discussion

In the current study, the “Social Skills” sub-scale of the EQ was significantly and positively associated with communication skills performance in the BBN assessment across both the correlational and regression analyses. Approximately 14% of the BBN score variation was explained by the regression model. As described by Lawrence et al. [13], the “Social Skills” sub-scale assesses the presence (or absence) of intuitive social skills and spontaneous and context-independent use of social skills (e.g., “*I find it hard to know what to do in a social situation.*”, “*I don’t consciously work out the rules of social situations.*”). It has been noted that such skills are dependent upon a certain amount of cognitive empathy. Consistent with this observation, “Social skills” sub-scale scores in the current study was significantly correlated with the JSPE “Standing in the Patients’ Shoes” sub-scale ($r(99) = 0.40$, $p < 0.001$) and the EQ “Cognitive Empathy” sub-scale ($r(99) = 0.47$, $p < 0.001$). In a complementary manner, the JSPE “Standing in the Patient’s Shoes” sub-scale, which is based around the respondent’s perceived ability to take the perspective of their patient, was significantly (albeit weakly) associated with a simulated BBN performance.

Existing research has demonstrated an inconsistent and inconclusive relationship between self-report empathy scale scores and medical students’ actual empathic behaviour in simulated or clinical settings [16, 17]. Hojat et al. [16] reported a modest positive correlation between medical students’ self-reported empathy levels and program directors’ assessments

of the same students' empathy levels during the end of internship three years later. Another study reported an apparent dissociation between self-reported empathy values and observed empathic ability, as measured in a clinical skills assessment in OSCEs completed towards the end of Years 2 and 3 of medical school [17]. Variable findings may reflect concerns expressed by some authors that self-report measures of similarly named constructs related to cognitive empathy may actually involve different processes, and that current research precludes any conclusions regarding the use of self-report scales as proxies for cognitive empathy abilities [18,19].

Among the study limitations, the limited response rate (24.1%) leaves open the possibility of non-response bias, impacting the generalisability of the results. Additionally, interpretations regarding why BBN communication skills performance correlated with particular sub-scales are admittedly post hoc and speculative and thus should be considered with caution.

Nevertheless, studies directly relating healthcare communication skills performance and empathic self-reports among trainee physicians or nurses are scarce; future studies need to test hypotheses-driven associations as well as accounting for factors including social desirability which might dampen the validity of self-report items framed in terms of competency. Personality variables such as narcissism have also been implicated as potential moderators of the relationship between self-report empathy measures and behavioural measures, highlighting the importance of controlling for such variables in future research [20, 21].

4.2 Conclusions

Research is required to produce more robust evidence on the effectiveness of educational BBN communications skills training interventions and their ability to facilitate the transfer of skills to the workplace, the ultimate aim of which is to improve patient care. The present

study is among the first of its kind to focus on psychological factors contributing to communication in a BBN context. We hope it will stimulate further research in the field of communication skills training and ultimately improve patient outcomes.

4.3 Practice Implications

A clearer understanding of the moderating role of personality traits may lead to the development of more bespoke and effective BBN communications skills training interventions (e.g. increased training and feedback on perceived empathetic responses for physicians who have difficulty demonstrating empathy, or social skills training to help those with limited competencies in this area to communicate more effectively), and may help trainees to transfer these skills more effectively to the workplace.

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Table 1: Application of SPIKES protocol to BBN simulation based around communication of a probable diagnosis of multiple sclerosis

S – Setting

- Introduction, gaining consent for consultation and checking patient's identity
- Set up for consultation by asking patient if they want anyone else present and mentioning that they may want to avoid interruptions during consultation by having quiet room, phone on silent, adequate time etc...
- Clarifying reason for attendance

P – Perception

- Student asks a question that allows the patient to tell them what they think is going on: e.g. *“Can you explain what has happened so far?”* *“Do you have any concerns about diagnosis?”*
- Student should leave time for the patient to think and respond and either clarify or acknowledge the patient's response thoughtfully

I – Invitation

- Student looks for an opening or invitation to give the patient the news. If the patient asks straight out *“so what did the tests show?”* the invitation is implicit, if not the student should ask the patient if they want the result of their test

K – Knowledge

- The student should give a warning shot to the patient: e.g. *“I wish I had better news for you...”*
- Explanation in simple language that the MRI showed some changes suggestive of Multiple Sclerosis
- The student should be able to explain briefly what Multiple Sclerosis is to the patient

E- Empathy & Emotions

- Student acknowledges the patient's emotional response by naming the emotion *“I can see you are/ you seem..... shocked/surprised/upset/angry*
- Student demonstrates empathic response – *“I can see how this must be a shock for you...”* *“I can understand your upset/anger...”*

S – Summarises

- Asks about patient concerns/questions
- Deals with patient concerns: acknowledges the validity of the concern and goes on to address these concerns as best they can with the information they have
- Checks patient's understanding

Table 2. Correlations between communication skills performance (BBN score) and the scores on the Empathy Quotient and the Jefferson Scale of Physician Empathy (JSPE).

	Empathy Quotient				JSPE			
	Total	Cognitive	Emotional	Social skills	Total	Patient Understanding	Compassionate Care	Standing in Patients' Shoes
BBN Score	0.011	0.007	-0.033	0.306***	0.082	0.016	0.050	0.221*

Notes: *p < 0.05; **p < 0.01; *** p < 0.005. Study participants were 100 medicine students.

Table 3. Results of multiple linear regression modelling for BBN score. B denotes the unstandardised variable estimate. SE denotes the standard error of the variable estimate. Beta denotes the standardised variable estimate. The t statistic is the coefficient divided by its standard error. * p < 0.05, ** p < 0.001.

	Dependent Variable: BBN Score				
Model	Unstandardised Coefficients		Standardised Coefficients		
	B	Std. Error	Beta	t	Sig.
[Constant]	57.48	16.92		3.40	0.001 **
Empathy Quotient					
Cognitive Empathy	-0.45	0.35	-0.15	-1.29	0.20
Emotional Empathy	-0.48	0.43	-0.12	-1.12	0.27
Social Skills	2.17	0.77	0.34	2.84	0.01 *
JSPE					
Perspective Taking	0.05	0.27	0.02	0.19	0.85
Compassionate Care	0.002	0.41	0.001	0.01	0.99
Standing in Patient' Shoes	0.82	0.71	0.13	1.17	0.25