

## Doctors' emotional intelligence and the patient–doctor relationship

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**CONTEXT** Current studies have found limited evidence for an association between doctor emotional intelligence (EI) and the patient–doctor relationship (PDR). This study explored the associations among doctor EI, patient trust and the PDR using multi-source and multi-level approaches.

**METHODS** A total of 994 outpatients and 39 doctors representing 11 specialties were surveyed.

**RESULTS** Doctors' self-rated EI was not significantly correlated with any variables rated by the patients. The nurse-rated PDR and the EI score for the doctor were positively associated with patient trust at a significant level.

**CONCLUSIONS** Multi-sources for assessment of doctor EI may be more objective and predictive than doctor self-ratings in ascertaining the associations among patient trust, the PDR, and patient satisfaction. Emotional intelligence coaching for doctors and interdisciplinary collaboration among clinicians are needed to optimise the efficient and therapeutic function of the PDR for patients.

**KEYWORDS** physicians/\*psychology; \*emotions; \*intelligence; \*physician–patient relations; \*interprofessional relations; \*trust; patient satisfaction; humans; review [publication type].

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### INTRODUCTION

Emotional intelligence (EI) is recognised as an important personal attribute involved in nurturing the patient–doctor relationship (PDR) and is thus increasingly alluded to in the medical education curriculum. At a time of heightened competition for patient loyalty, those doctors who are more aware of their patients' emotions are more successful in treating them than their less perceptive colleagues.<sup>1</sup> Accordingly, the doctor is assumed to be a key figure in facilitating and managing the PDR by influencing the way patients perceive and feel about their treatment and illness. As a result, interpersonal communication skills have been designated as one of the six areas of professional competence for doctors by the Accreditation Council for Graduate Medical Education.<sup>2</sup> Emotional intelligence is included as one of the assessment items under affective and moral domains.<sup>3</sup> Accordingly, medical professionals have begun to recognise that some doctors are trained to be clinically competent, but have inadequate social skills for practice. Indeed, assessment of EI is now used as part of the selection process for some medical school applicants in an effort to consider an applicant's competence in interpersonal skills.<sup>4,5</sup> However, recent studies<sup>6,7</sup> offer limited evidence regarding the associations between doctor EI, the PDR and patient satisfaction. Studies regarding the factors which influence the PDR have focused mainly on the doctor's demographic characteristics,<sup>8</sup> whether or not a patient sees the same doctor on a regular basis,<sup>9</sup> and the doctor's interview style,<sup>10,11</sup> etc. The literature focusing on specific EI characteristics in doctors is scanty.

The current study explored the associations between doctor EI, patient trust and the PDR using a multi-level and multi-source data approach. Compared with previous EI studies, the current study is unique. Firstly, our study used multiple sources, rather than

## Overview

### What is already known on this subject

Current studies offer limited evidence regarding the associations between doctors' emotional intelligence (EI), the patient–doctor relationship (PDR), and patient trust and satisfaction.

### What this study adds

Patients tend to rate trust higher when it pertains to doctors with high EI, and trust was significantly associated with nurse-rated doctor EI. There were no significant associations between doctors' self-reported PDR and EI, patient-rated trust or PDR.

### Suggestions for further research

Emotional intelligence coaching for doctors and interdisciplinary collaboration among clinicians are needed to optimise the therapeutic function of the PDR for patients.

just the self-ratings of doctors.<sup>6,7</sup> Secondly, our study used doctors rather than medical students as research targets. Thirdly, our sample included 39 doctors representing 11 different specialties, rather than focusing on doctors who were board-certified in one specialty.<sup>7,8</sup> Finally, we used the doctor, rather than the patient, as the unit of analysis, which allowed us to observe the contextual effects of the same doctors in encounters with patients in a similar way. Most studies have ignored the methodological issues by using the individual patient as the unit of analysis. In this way, variations in the associations between the doctor's characteristics and the PDR may be explained by those doctors who had larger patient samples. In other words, the individual differences among doctors may not have been detected.

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## LITERATURE REVIEW

### Emotional intelligence: nature and debates

Although EI is a new construct which has emerged in the past decade, it has gained considerable attention from the sociological, psychological and neurological professions. Emotional intelligence has been historically rooted within the rubric of social intelligence, which refers to the ability to understand and manage

people.<sup>12</sup> There have been serious academic debates on whether or not EI as a construct is distinct from personality traits<sup>13,14</sup> or whether it represents a mixed model which combines both.<sup>1,15</sup> Mayer and Salovey<sup>14</sup> originally used the term 'emotional intelligence' in 1990, defining it as the ability to monitor one's own and others' feelings and emotions in order to guide one's thinking and actions. In 1997, the definition of EI was further refined as 'the ability to perceive emotion, integrate emotion to facilitate thought, understand emotions, and to regulate emotions to promote personal growth'.<sup>14</sup> Davis *et al.*<sup>16</sup> argued that EI seemed to be an elusive and fluid construct. They offered a four-dimensional definition to further clarify the EI construct, suggesting that EI refers to:

- 1 appraisal and expression of emotion in oneself;
- 2 appraisal and recognition of emotion in others;
- 3 regulation of emotion in oneself, and
- 4 the use of emotion to facilitate performance.

Adapting the definition of Davis *et al.*,<sup>16</sup> Law *et al.*<sup>13</sup> confirmed the arguments of Mayer and Salovey<sup>14</sup> as follows:

- 1 emotional intelligence is an attribute distinct from the Big Five personality dimensions (which includes openness, conscientiousness, extroversion agreeableness, and neuroticism);<sup>17</sup>
- 2 emotional intelligence is a facet of intelligence which is mildly correlated with general mental abilities, and
- 3 emotional intelligence is developmental in nature, which allows it to increase with age and life experiences.

### Emotional intelligence, PDR, trust and patient satisfaction

Much of the literature pertinent to management supports the notion that service providers with high EI receive higher customer satisfaction scores.<sup>9</sup> Among the variety of social relationships valued by people, the PDR is more important than it has been given credit for.<sup>18</sup> Magee and D'Antonio indicated that second only to family relationships, the PDR is considered to be extremely or very important by 67% of those surveyed, surpassing relationships with spiritual advisors (52%), pharmacists (45%) and co-workers (44%).<sup>18</sup> However, there is little literature in the medical field that explores the association between doctor EI and the PDR, although there is considerable interest in exploring the predictors of the PDR. Wagner *et al.*<sup>7</sup> published the first study to

focus on doctor EI and the PDR. They found only one subscale of EI was related to higher patient education. Stratton *et al.*<sup>6</sup> found that the EI of medical students was positively correlated with communication skills. Given the limited evidence for an association between doctor EI and the PDR, these findings should be considered preliminary.

Trust was conceptualised as existing when one party has confidence in a partner's reliability and integrity.<sup>19</sup> The ongoing PDR is only allowed to continue when the trust encourages the patient to pay for health care services and the patient expects favourable outcomes in return. Many studies have demonstrated positive correlations between trust, the PDR and patient satisfaction.<sup>8,20</sup> Given the importance of trust in the patient–doctor encounter, we have included patient trust in the EI of the doctor as a predictor of the PDR and patient satisfaction.

### Hypotheses

In line with the aforementioned reasoning, our hypotheses comprised a model which includes the antecedents and consequences of a doctor's EI and the PDR. Firstly, we hypothesised that the patient's age, education and ratio of follow-up would be significantly correlated with his or her trust towards doctors and perception of the PDR. Secondly, the doctor's EI would be significantly correlated with the patient's trust, the PDR and doctor satisfaction.

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## METHODS

### Research sample and data collection

Consent to participate was obtained from 39 doctors and 994 patients. To avoid the common method bias produced by a single source or rater in behavioural research,<sup>21</sup> this study collected data from three sources: the patients; the doctors themselves, and three nursing directors (Table 1). At the patient level, in which patients were nested under each doctor, data were obtained from patient questionnaires completed during face-to-face interviews conducted by nurse practitioners in the outpatient department. The patient response rate was 98.5%. At the doctor level, both self-rated (the doctors) and externally sourced (the three nursing directors) data were assessed.

### Measures, instruments and statistical analysis

The patient survey (Appendix S1) included an 11-item trust scale<sup>22</sup> (example item: 'Your doctor is

extremely thorough and careful'). The PDR was measured using the 9-item Patient–doctor Relationship Questionnaire (PDRQ-9)<sup>23</sup> (example item: 'I can talk to my doctor'). Doctor satisfaction was measured using a two-item questionnaire (example item: 'I am satisfied with the care provided by my doctor'). Hospital satisfaction was measured using a two-item questionnaire (example item: 'I would recommend this hospital to my friends and family'). The satisfaction items were derived from the Patient Satisfaction Questionnaire.<sup>24</sup> At the group level, the doctor survey included a 16-item EI from the Wong and Law Emotional Intelligence Scale (WLEIS, 2002) scale.<sup>13</sup> The scale consists of 16 items relating to self emotional appraisal, other emotional appraisal, use of emotion, and regulation of emotion. Sample items include: 'I really understand what I feel,' and 'I have a good control of my own emotions.' The EI items are scored on 5-point scales (1 = strongly disagree, 3 = neutral, 5 = strongly agree). (See Appendix S1 [supplementary material].) The EI scale and PDR for doctors were rated by the doctors themselves and by three nurse directors, respectively. The patient's trust towards the individual doctor was also rated by three nursing directors. The ratings by the three female nursing directors were combined into a single measure derived from a consensus following a brief discussion about the 39 doctors. The survey also included questions on doctor demographics. The ratio of patients complying with follow-up visits for each doctor was obtained from claim data. Cronbach's alpha for patient variables ranged from 0.90~0.97. Cronbach's alphas for doctor self-rated variables ranged from 0.86~0.79. Descriptive analyses were performed using spss Version 12 (SPSS Inc., Chicago, IL, USA). The unit for Pearson's correlation analysis was the individual doctor. Patient data were aggregated to individual doctors by averaging the scores given to each variable.

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## RESULTS

Patient demographics are shown in Table 2. The patients were almost equally divided by gender (536 men, 458 women). The mean age of the subjects was  $47.09 \pm 23.37$  years. The majority of the patients made follow-up visits (89.3%) to the same doctor. Most subjects (72.2%) were married and had been educated to elementary school level or lower (52.9%). The majority of subjects were recruited from the gastroenterology clinic (24.2%) and the fewest number of subjects were recruited from the neurology clinic (2%). Doctor demographics are

Table 1 Respondent level, variables and questionnaire sources and reliability

Variable	Respondent	Questionnaire source	Item number	Reliability
<b>Patient level</b>				
Trust	Patients	Hall <i>et al.</i> (2002)	11	0.97
PDR	Patients	Van der Feltz-Cornelis <i>et al.</i> (PDRQ-9) (2004)	9	0.92
Doctor satisfaction	Patients	Self-designed	2	0.91
Hospital satisfaction	Patients	Self-designed	2	0.90
<b>Doctor level</b>				
<i>Emotional intelligence</i>				
SEA	(1) Doctors (2) 3 nurse directors	Wong & Law EI scale (2002)	4	0.80 –
OEA	(1) Doctors (2) 3 nurse directors		4	0.85 –
UOE	(1) Doctors (2) 3 nurse directors		4	0.79 –
ROE	(1) Doctors (2) 3 nurse directors		4	0.88 –
PDR	(1) Doctors (2) 3 nurse directors	Van der Feltz-Cornelis <i>et al.</i> (PDRQ-9) (2004)	9 9	0.86 –
Trust	3 nurse directors	Hall <i>et al.</i> (2002)	11	–
Demographic variables	Doctors	Age, gender, years of experience, education, and specialty	4	–
Patient follow-up ratio	Claim data		1	–

PDR = patient–doctor relationship; EI = emotional intelligence; SEA = self-emotion appraisal; OEA = other emotion appraisal; UOE = use of emotion; ROE = regulation of emotion

shown in Table 3. The doctors were predominantly male (90%), with a mean age of  $42 \pm 7.43$  years, a bachelor degree in medicine from medical school (72.5%), and board certification in internal medicine (67.6%). The average length of time since the doctor had received the medicine degree was 15.97 years. The number of doctors in each specialty ranged from one to nine. The most common specialty for doctors was gastroenterology ( $n = 9$ ). All doctors representing paediatrics, nephrology and neurosurgery participated in the study. Only one doctor from each of dermatology, haematology and oncology, and neurology participated in the study. The number of patients studied for each doctor ranged from nine to 64, with a mean of 24.44.

Table 4 depicts the relationships among the ratings of multiple sources for the doctor's EI and patient trust, the PDR, and patient satisfaction with the

hospital and doctors. The relationships were examined using Pearson correlation coefficients with two-tailed tests of significance. The results indicated that, from the patient's perspective, patient trust, the PDR and patient satisfaction with the hospital and the doctor were positively correlated. Patients who were older, less educated, and more compliant with follow-up visits gave higher ratings on patient trust, the PDR, and patient satisfaction with the hospital and the doctor. From the nurses' perspective, the individual doctor's PDR was positively associated with patient-rated trust towards a certain doctor ( $r = 0.348$ ;  $P < 0.05$ ). Four dimensions of the doctor's self-rated EI were not significantly correlated with any variables rated by the patients. Three dimensions of a doctor's EI (i.e. appraisal of other emotions, use of emotions and regulation of emotions) rated by the nursing directors were positively correlated with patient trust at a significant level.

Table 2 Patient demographics (n = 994)

Variable	n	%
Gender		
Male	536	53.9
Female	458	46.1
Mean age (years)	47.09	SD 23.37
	Min < 1	Max 99
Follow-up visits		
Yes	888	89.3
No	106	10.7
Marital status		
Single	273	27.5
Married	718	72.2
Other	3	0.3
Education		
Elementary school	526	52.9
High school	146	14.7
Senior high school	205	20.6
College or higher	117	11.8
Category of department		
Dermatology	43	4.3
Family medicine	24	2.4
Gastroenterology	241	24.2
Haematology and oncology	36	3.6
Nephrology	81	8.1
Metabolism and endocrinology	79	7.9
Neurology	20	2.0
Neurosurgery	166	16.7
Orthopaedics	108	10.9
Paediatrics	132	13.3
Plastic surgery	64	6.4

SD = standard deviation

Table 3 Demographics of doctors (n = 39)

Variable	n	%
Gender		
Male	35	90
Female	4	10
Mean age (years)	42	SD 7.43
	Min 33	Max 58
Education		
Baccalaureate	29	72.5
Master's	5	12.5
PhD	4	10
Department		
Internal medicine	27	67.6
Surgery	12	30
Average number of patients in the OPD		
	Mean 24.44	SD 12.69
	Min 9	Max 64
Average number of years since being awarded the MD degree		
	Mean 15.97	SD 7.53
	Min 6	Max 33
Average number of OPD patients in the specialty		
	Mean 40.10	SD 12.69
	Min 17.68	Max 106.04
Medical specialty		
Dermatology	1	2.5
Family medicine	2	5
Gastroenterology	9	22.5
Haematology and oncology	1	2.5
Nephrology	3	7.5
Metabolism and endocrinology	2	5
Neurology	1	2.5
Neurosurgery	5	12.5
Orthopaedics	4	10
Plastic surgery	3	7.5
Paediatrics	8	20

SD = standard deviation; OPD = outpatients department

## DISCUSSION

### Credibility of the external assessment of a doctor's EI

The significant associations among a doctor's EI, patient trust, the PDR, and patient satisfaction found in our study, but not in other studies,<sup>6,7</sup> may have resulted from our use of external rating sources for the doctor. Our findings showed that there was no significant association between a doctor's self-reported EI and patient-rated trust, or the PDR. However, patient ratings of trust were significantly

correlated with the ratings of nursing directors. Our findings affirmed those of previous studies.<sup>21,25</sup> A systematic review indicates that doctor self-assessment

Table 4 Correlation matrix associated with patient ratings (n = 39)

		TRUST (pt)	PDR (pt)	H SAT (pt)	MD SAT (pt)
1	MD TRUST (pt)	1			
2	MD PDR (pt)	0.773 <sup>‡</sup>	1		
3	PT H SAT (pt)	0.752 <sup>‡</sup>	0.807 <sup>‡</sup>	1	
4	PT MD SAT (pt)	0.647 <sup>‡</sup>	0.761 <sup>‡</sup>	0.931 <sup>‡</sup>	1
5	PT age	0.121 <sup>§</sup>	0.079 <sup>‡</sup>	0.083 <sup>‡</sup>	0.128 <sup>§</sup>
6	PT education	-0.092 <sup>‡</sup>	-0.058*	-0.011	-0.049
7	PT follow-up	0.132 <sup>§</sup>	0.109 <sup>‡</sup>	0.068*	0.075 <sup>‡</sup>
8	MD PDR (md)	0.050	-0.077	-0.062	-0.017
9	MD PDR (nr)	0.348 <sup>†</sup>	0.215	0.144	0.167
10	MD SEA (md)	-0.059	0.017	-0.014	-0.004
11	MD OEA (md)	0.033	-0.007	0.027	0.091
12	MD UOE (md)	0.116	0.102	0.040	0.084
13	MD ROE (md)	0.003	0.076	-0.038	-0.006
14	MD SEA (nr)	0.137	0.094	0.033	0.095
15	MD OEA (nr)	0.286*	0.207	0.034	0.098
16	MD UOE (nr)	0.358 <sup>†</sup>	0.162	0.135	0.046
17	MD ROE (nr)	0.270*	0.202	0.108	0.176

PDR = patient–doctor relationship; MD TRUST (pt) = patient's rating of trust towards his or her doctor; MD PDR (pt) = patient's rating of PDR; PT H SAT (pt) = patient's satisfaction with hospital; PT MD SAT (pt) = patient's satisfaction with doctors; MD PDR (md) = doctor's self-rating of the PDR; MD PDR (nr) = ratings of PDR from the three nursing directors; MD SEA (md) = MD self-rating of self-emotion appraisal; MD OEA (md) = MD self-rating of other emotion appraisal; MD UOE (md) = MD self-rating of use of emotion; MD ROE (md) = MD self-rating of regulation of emotion; MD SEA (nr) = ratings from the three nursing directors of the doctor's self-emotion appraisal; MD OEA (nr) = ratings from the three nursing directors of the doctor's other emotion appraisal; MD UOE (nr) = ratings from the three nursing directors of the doctor's use of emotion; MD ROE (nr) = ratings from the three nursing directors of the doctor's regulation of emotion

\*  $P < 0.10$ ; †  $P < 0.05$ ; ‡  $P < 0.01$ ; §  $P < 0.001$

has poor or limited accuracy; these findings are independent of level of training, specialty, domain of self-assessment, or manner of comparison.<sup>26</sup> Epstein and Hundert<sup>3</sup> have indicated that doctor self-assessment may be biased or influenced by the subject's psychological sense of self-efficacy and self-confidence, rather than more appropriate criteria, even among bright and motivated individuals. In line with the reasoning from the literature, the lack of accuracy and validity for a doctor's self-reported EI may be the major reason why there is limited evidence of associations among doctor EI, the PDR and patient satisfaction in previous studies,<sup>6,7</sup> rather than this being attributable to small sample sizes or the validity of the EI assessment.

Nurse sensitivity regarding patient thoughts and mindset also merits serious consideration. Our study indicates that the PDR as rated by the doctor, had no significant association with patient ratings. However, the observational and intellectual skills of

nurses may make them more reliable about including within the context of health care some sensitivity towards the patient's clinical physiological and psychological status, and family needs and concerns.<sup>21</sup> In other words, nurses' work brings them closer to patients and their families. On the contrary, doctors tend to be more results-oriented. Doctors may ignore the subjective feelings of a patient as they are primarily occupied in treating the patient's disease. In general, nurses spend more time in the presence of patients or their families. In addition, the PDR is an interaction involving at least two individuals: the patient (and/or family members) and the doctor. It would not have been appropriate to adopt only either the patient's or the doctor's perception of the PDR.

#### **Emotional intelligence: abilities rather than personality traits**

Our findings show that the ratings of doctors' EI by three nursing directors were positively correlated with

doctor age ( $r = 0.482$ ,  $P < 0.01$ ) and experience ( $r = 0.403$ ,  $P < 0.05$ ), findings which are consistent with those of previous studies<sup>13,27,28</sup> They indicate that EI increases with age and experience. Wong and Law<sup>29</sup> argued that EI is positively associated with age among incumbents of six different types of jobs. Again, our findings affirm that EI is developmental in nature. We are more inclined to view EI as a mental ability, rather than as a group of personality traits, as mental ability allows for a greater likelihood of change than do personality traits.

### Trust: a cornerstone of the PDR

In the present study, trust was found to be positively associated with a doctor's experience, the patient follow-up ratio, EI and the PDR. Unlike other physical goods, health care services are an intangible and invisible product. Given the patient's lack of professional expertise and information with which to judge the quality of health care, the patient envisions health care services in terms of the people who deliver them. In line with this reasoning, trust makes the exchange in the PDR one that may not only have a financial aspect but also involve psychological transactions between two individuals.

### Limitations of the study

Our findings should be viewed as tentative and interpreted with caution because there are several limitations to the study. Firstly, selection bias may have occurred as the doctors who agreed to participate may have been more patient-friendly in handling the PDR while being studied and scrutinised. Although our study covered 11 specialties, a small sample from each specialty made the differences within and across specialties difficult to discriminate statistically. Patients who agreed to participate may have felt well disposed towards the doctors or hospitals they referred to. Further, patients who valued the PDR may have been more likely to respond. However, the high response rate of patients (98.5%) reinforces the robustness of our results. Patients who had experienced malpractice by certain doctors may have been excluded from the sample. Secondly, the findings of the present study lack external generalisability to other settings and other samples. The context effect of inpatient and emergency departments on patient trust and the PDR would differ from those in the outpatient department. Thirdly, the Hawthorn effect may have affected results as the doctors who agreed to participate might have pretended to be nicer to patients than they usually were during the time the study was executed.<sup>30</sup>

## CONCLUSIONS

Our findings highlight the importance of the doctor's EI to patient trust, the PDR, and patient satisfaction. Firstly, we believe that comprehensive 'know-how' for handling the PDR cannot be fully learned in school, nor can it be purchased in the market place. As Sade *et al.*<sup>31</sup> indicate, the ability to manage emotion is hard to teach in the medical school; therefore, EI may be considered as one of the more salient criteria for selection of future doctors. We suggest that the selection of medical students should be based on both academic achievement and EI ability. Secondly, multi-source ratings or feedback from stakeholders are feasible means of assessing the competence of doctors. Future studies should consider multiple sources of subjective measurement, such as 360-degree feedback. That doctor EI can be measured distinguishes it from personality traits, but this measurement needs to be refined in order to achieve sound validity and reliability in methodology. Thirdly, according to Mayer and Salovey's theory,<sup>14</sup> EI, focusing on ability rather than traits, can be acquired through learning and experience. An underlying capacity for EI is necessary, although not sufficient, for a successful doctor to manifest competence in the medical profession. After a medical student leaves school, his or her capacity to learn EI may be enhanced by adjusting interaction styles, attitudes and mindset when encountering difficult situations, such as malpractice suits. The significance of EI must be intrinsic to the doctor's lifelong learning effort to be informed, to be aware of patient needs, and to endeavour to enhance his or her capacity for EI. Emotional intelligence coaching for doctors and interdisciplinary collaboration among clinicians are needed to optimise the efficient and therapeutic function of the PDR for patients.

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*Contributors:* H-CW and H-CC contributed to the conception and design of the study. H-CW, H-CC, KL and S-YH contributed to the acquisition, analysis and interpretation of data. H-CW and KL drafted the manuscript. H-CW and S-YH contributed to statistical analysis and obtained funding. H-CW and H-JC contributed to administrative, technical and material support. All authors contributed to the critical revision of the manuscript. The study was supervised by H-CW, H-CC and H-JC.

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SUPPLEMENTARY MATERIAL

The following supplementary material is available for this article:

**Appendix S1.** Instruments used in this study.

This material is available as part of the online article from: <http://www.blackwell-synergy.com/doi/abs/10.1111/j.1365-2923.2008.03039.x>.

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