

Physicians' Emotional Intelligence and Patient Satisfaction

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Background and Objectives: *This study investigated the relationship between patient satisfaction and physicians' scores on a test of emotional intelligence. **Methods:** Faculty and resident physicians at a southern medical school completed the Bar-On Emotional Quotient Inventory (EQi). Patient subjects were recruited at the conclusion of an office visit and completed a patient satisfaction survey. Spearman rank order correlations and t tests were used to examine the relationship between global, composite, and subscale scores on the EQi and patient satisfaction. Race, gender, and resident/faculty status were compared via t tests. **Results:** When patient satisfaction scores were used to dichotomize physicians into two groups, those with 100% satisfied patients and those with less than 100% satisfaction, only one subscale of EQi, "happiness," was related to higher satisfaction. **Conclusions:** Findings suggest a limited relationship between physicians' scores on a test of emotional intelligence and patient satisfaction. Implications for physician training programs are offered in light of recent focus on physician-patient communication in medical education. Application of emotional intelligence concepts to physician skills and patient attitudes needs further research that may lead to further educational opportunities.*

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The advantages of a mutually satisfying patient-doctor relationship have been well described in the literature.¹⁻³ In addition to therapeutic benefits to patients, improved patient adherence, and fewer malpractice suits, maintaining patient loyalty through improved patient satisfaction is a factor of increasing importance in today's managed care environment. The connection between patient loyalty and continued income generation is noted by Goleman,⁴ who writes of the competitive edge of physicians who are better at recognizing patients' emotions and showing empathy.

It is important to understand the contribution of physician characteristics to the patient-doctor relationship because of their effect on patient satisfaction and improved clinical encounters/clinical outcomes. Consideration of physician characteristics also bears directly on the training of medical students and residents in communication skills and the recent emphasis on using a biopsychosocial, patient-centered, and humanis-

tic approach.^{1,5-8} In their summary of approaches to effective doctor-patient communication, Epstein et al¹ described components such as active listening on the part of the physician, responding to patients' emotions, physician self-awareness, and respect for individuals. These components are similar to the domains that are currently being investigated as constituting non-cognitive intelligence, ie, "emotional intelligence" (EI).

EI is a new construct, and currently there is discussion among psychologists and, most recently, medical educators regarding its construct validity, predictive power, and the psychometric properties of the few instruments available to measure it.⁹⁻¹² EI has received attention in the business world as organizations try to understand factors that lead to employee success.¹¹ Presently, theorists' conceptualizations of EI vary,¹³ yet most agree that EI describes characteristics beyond technical skill and traditional cognitive intelligence, including factors such as awareness of and ability to modulate one's own emotional responses and to understand others. Bar-On¹⁴ describes EI as the "array of personal, emotional, and social competencies that enable one to cope with environmental demands." Such demands are present, especially in stressful situations that exist today in the rapidly changing health care environment.

Because no investigation has yet been made of the applicability of the EI construct to the doctor-patient relationship, it remains unclear to what extent EI assists in understanding differences in physician behavior, the quality of the relationship, or the relation between physician characteristics and patient satisfaction. The present study is the first in which a measure of EI has been obtained for a sample of physicians and examined in terms of its relationship with any patient-physician relationship variable. This exploratory study tests the hypothesis that EI is positively correlated with patient satisfaction.

which was administered to physicians in an hour-long testing session in the departmental library. The EQi is one of only a few instruments now available to measure EI, has adequate reliability and validity, and has been in development since 1983.¹⁶ The EQi consists of 133 self-report items describing emotional functioning. Subjects rate how well the items describe them using a 1–5 point Likert scale. The instrument reports a global EI score; five composite scale scores of intrapersonal, interpersonal, adaptability, stress management, and general mood; and 15 subscales that are briefly described in Table 1. EQi scoring is similar to traditional

Methods

Subjects

Physician subjects were 14 faculty and 16 residents (18 males and 12 females) in an academic family medicine department in the southern United States. The average age of the physicians was 37.78 years (range 26.92–52.50). The average number of years since receiving the MD degree was 8.06 (range .20–27.00). Patient subjects were 232 ambulatory patients attending an academic family medicine clinic who gave consent and completed a satisfaction survey following their regularly scheduled clinic visit. In the patient sample, 24% were males and 76% females, 50% white and 47% African-American, and 3% other. The mean age of patients was 49.12 years. Fifteen percent were covered by Medicaid, 20% by Medicare, 31% by HMOs, 22% by private insurance, 9% had no coverage, and 3% were unknowns.

Neither physician nor patient participants were paid for their cooperation. The study was reviewed and approved by the Human Assurance Committee of the institution. Consent was obtained from physicians and patients.

Instruments

Physician EI was assessed using the Bar-On Emotional Quotient Inventory (EQi),¹⁵

Table 1

Emotional Quotient Inventory Subscales and Descriptions*

<i>Composite Scale</i>	<i>Subscale</i>	<i>Description</i>
Intrapersonal	Self-regard	Self-respect and acceptance Good self-esteem, feel positive about themselves
	Emotional self-awareness	In touch with their feelings Understand what and why they feel what they do
	Assertiveness	Ability to express feelings, thoughts, and beliefs in a nondestructive fashion
	Independence	Self-reliant and independent in thinking and actions
	Self-actualization	Ability to realize one's full potential Live rich and meaningful lives
Interpersonal	Empathy	Aware of and appreciate the feelings of others
	Social responsibility	Cooperating and contributing members of social groups
	Interpersonal relationships	Ability to establish and maintain relationships with others and give and receive affection
Adaptability	Reality testing	Realistic, well grounded Good at sizing up the situation
	Flexibility	Able to adjust their emotions, thoughts, and behaviors according to the changing environment
	Problem solving	Adept at recognizing problems and generating solutions
Stress management	Stress tolerance	Can cope with stress actively and positively Calm and rarely anxious
	Impulse control	Able to resist or delay impulses Rarely impatient
General mood	Optimism	Look at the bright side of life
	Happiness	Feel satisfied with their lives, genuinely enjoying other people Happy and pleasant

* Based on Bar-On,¹⁴ 1997

Wechsler IQ scores, with a mean of 100 and standard deviation (SD) of 15. Instruments were scored using computer software purchased from Multi-Health Systems, Inc (908 Niagara Falls Blvd, North Tonawanda, NY 14120-2060), and scores were entered into a research database.

Patient satisfaction was measured by an 11-item questionnaire assessing both the technical and personal skills of physicians and frequency of preventive care items and delay in treatment seeking. Questions were based on an 11-item satisfaction survey (the 1994 Commonwealth Fund's Minority Health Survey¹⁷) that had been used previously in the study site. Eight items from the survey, which measured the patients' satisfaction with their individual physicians and overall satisfaction with health care, were included in these analyses. Excluded items were questions about receipt of preventive care, failure of treatment, or postponement of needed medical care, since these items were deemed not applicable to the purposes of the present study.

Data Analysis

Two satisfaction measures were aggregated: a "total satisfaction" sum (eight items, alpha reliability=.891) and a four-item "relationship satisfaction" score in which items were selected as most reflective of the patient-physician relationship (alpha reliability=.879). "Relationship satisfaction" included summed responses to questions assessing listening, dignity, understanding, and overall satisfaction. Physicians were subsequently dichotomized on the "relationship satisfaction" scale as those for whom all patients reported 100% satisfaction (n=11) versus physicians who had some patients with less than 100% satisfaction (n=19).

Data were analyzed using Spearman rank order correlations and *t* tests to examine the relationship of EQi and patient satisfaction. Significance levels of *t* tests and correlations were set at .01 due to the multiple comparisons made. Race, gender, and resident/faculty status were compared via *t* tests (alpha=.05).

Results

Patient satisfaction ratings were obtained for the 30 physicians, with an average of 7.7 patient ratings per physician (range=2 to 22, SD=5.08). Mean satisfaction ratings on individual satisfaction items were consistently high across each satisfaction question, ranging from 3.69 to 3.94 on a 4-point Likert scale. A mean score on "total satisfaction" and "relationship satisfaction" was calculated for each physician. No differences were found in satisfaction scores by gender or resident/faculty status of physicians, although a trend for greater "total satisfaction" with faculty physicians was found ($P<.06$). Of the 232 patient subjects, 138 ranked their physician as excellent (4 points) on all eight of the relationship and satisfaction items.

Mean EQi scores per physician were calculated for each composite and subscale described above and for the global score. No differences were observed in EQi scores between resident and faculty physicians. Female physicians were rated consistently higher on all dimensions, but on only one composite scale, "stress," did the difference reach statistical significance ($P<.016$). Table 2 presents overall mean EQi scores and scores by gender.

Composite Scale Results

When Spearman rank-order correlations were calculated between the EQi global and composite scales, and with the two summed satisfaction scales ("total satisfaction" and "relationship satisfaction"), no correlations reached significance.

When physicians with 100% satisfied patients and those with some patients who were less than 100% satisfied were compared on each of the EQi scales via *t* tests, none of the composite scales were significant. Mean scores for these 100% satisfied and less than 100% satisfied physician groups are shown in Table 3.

Subscale Results

The 15 EI subscale scores were correlated in a similar fashion with "total satisfaction" and "relationship satisfaction." None were significant at the .01 level.

Comparisons of *t* tests between physicians with 100% patient satisfaction and those with less than 100% satisfaction showed only one significant difference in the "happiness" subscale ($t=2.76$, $P<.010$). This difference reflected a 10-point difference in EQi scores. Ten of the 15 subscales show higher scores with physicians with 100% satisfaction. (Table 3).

Discussion

The results of this study show only a limited relationship between patient satisfaction and physicians' emotional intelligence scores. Setting the satisfaction bar high by requiring 100% of physicians' patients to

Table 2

Emotional Quotient (EQ) Scores by Gender of Physician

EQ Scale	Male Physicians	Female Physicians	All Physicians
Intrapersonal	98.11	103.17	100.13
Interpersonal	101.61	103.67	102.43
Adaptability	96.11	102.75	98.77
Stress*	94.17	104.25	98.20
Mood	98.33	103.42	100.37
Global score	97.61	104.25	100.27

* $P<.016$

Table 3

EQi Composite and Subscale Scores for Physicians With Satisfied and Less Satisfied Patients

EQ Scale	Mean Score of Physicians With 100% Satisfaction	Mean Score of Physicians With Less than 100% Satisfaction Ratings	P Value	Mean Difference (a-b)	95% CI	
	Ratings (a)	Ratings (b)			Lower	Upper
Intrapersonal	106.91	96.21	.079	10.70	-1.32	22.71
Self-regard	98.91	91.32	.221	7.59	-4.84	20.02
Emotional self-awareness	106.91	102.05	.356	4.86	-5.73	15.45
Assertiveness	101.00	101.16	.983	-.16	-15.31	14.96
Independence	99.00	100.58	.738	-1.58	-11.15	7.99
Self-actualization	104.64	99.89	.322	4.75	-4.90	14.38
Interpersonal	107.27	99.63	.088	7.64	-1.22	16.50
Empathy	107.73	106.16	.723	1.57	-7.40	10.54
Social responsibility	108.82	99.74	.013	9.08	2.06	16.10
Interpersonal relationships	101.18	99.47	.747	1.71	-8.84	12.26
Adaptability	105.00	95.16	.077	9.84	-1.13	20.81
Reality testing	103.00	101.05	.703	1.95	-8.42	12.31
Flexibility	94.64	95.79	.850	-1.15	-13.56	11.25
Problem solving	98.36	99.63	.822	-1.27	-12.72	10.18
Stress	99.27	97.58	.705	1.69	-7.39	10.78
Stress tolerance	104.73	99.42	.349	5.31	-4.97	15.58
Impulse control	93.27	98.00	.391	-4.73	-13.89	4.44
Mood	106.45	96.84	.021	9.61	1.57	17.65
Optimism	102.91	99.74	.536	3.17	-7.20	13.55
Happiness	107.45	97.47	.010*	9.98	2.57	17.39
Global score	106.45	96.68	.051	9.77	-.02	19.56

* $P < .01$ EQi—Bar-On¹⁴ Emotional Quotient Inventory

report 100% satisfaction, and using a P value of .01, we found that only one subscale of EI relates to patient satisfaction—"happiness." This subscale reflects emotional intelligence in the composite scale area of physician mood. It is not surprising that a physician's own happiness transmits across the patient-physician relationship to increased patient satisfaction with care. It is more curious, perhaps, that the elements of EI that describe self-awareness, stress control, emotional functioning, and adaptability do not, at least in this limited sample, relate to patient satisfaction. Larger sample sizes may have yielded stronger effects, since our sample size of 30 had power only to detect large effects (power=.80, α =.05, effect size=.5).

In spite of the limitations of this exploratory study, the findings suggest one area in which EI training might be promoted to develop these skills in students and practicing physicians. If one of the outcomes we want to maximize in the future of health care is patient satisfaction, then helping our learners increase their level

of personal happiness and life satisfaction may be the best starting point for EI coaching and other educational interventions. Two items from the "happiness" subscale that were most significant were: "I'm not that happy with my life" (reverse scored) and "I enjoy weekends and holidays." Although simplistic, perhaps we need to encourage our students to recognize the value of time away from the practice of medicine and the basic joy of their own lives.

With more robust data, further research into the role of EI in the patient-physician interaction holds promise for discovery of important elements to add to undergraduate medical education. At least one medical school has considered EI constructs in the admission process.¹² Patient-doctor/clinical medicine courses that focus on maximizing the therapeutic role of the relationship may be the place to consider EI. Preceptors, as role models for effective relationships, may take note of findings such as those of the present study as they continually refine and develop their interactions with

patients and students. If future research supports the present finding that physician happiness is related to patient satisfaction, this may suggest the need to consider a viable approach to modifying curricula to discuss issues of personal career and life satisfaction. As clinicians are faced with increasing demands on their time, both in and out of the exam room, findings such as these suggest that decreased physician happiness may decrease patient satisfaction.

Limitations

The current study is limited by sample size, skewed satisfaction scores, and the use of a self-report instrument to measure EI. Future research needs to address these issues and, in addition, verify the validity of EI in health care workers. While the construct is intuitively valid, it has largely been used in the business world. Identification of clear differences between emotionally skilled and nonskilled physicians may yield new definitions and different criteria of success. In addition to the training opportunities described above, the concept of EI in health care provides research opportunities regarding its ability to predict success from entry into medical school through residency and beyond. Issues of emotional maturity, self-awareness, and personal well-being remain critical to success in the practice of medicine as in other fields.

Conclusions

Goleman first popularized the EI concepts through his books (*Emotional Intelligence: Why It Can Matter More Than IQ*¹⁸ and *Working With Emotional Intelligence*¹⁹) and has had strong influence in the business world. He described six effective leadership styles to improve the "climate," or working atmosphere, of the business setting.²⁰ If Goleman's climate is likened to the atmosphere of the patient-physician relationship, we may borrow his ideas that suggest that certain performance styles work better to create consumer (in our case, patient) satisfaction. We can design our educational interventions to enhance student recognition of patient needs and personal satisfaction. Motivating patients to adhere to prescribed medication and lifestyle regimens or to otherwise change behaviors to positively influence their health may be aided by increased understanding of the role of relationship and climate that is a part of each patient-physician interaction.

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REFERENCES

1. Epstein RM, Campbell TL, Cohen-Cole SA, McWhinney IR, Smilkstein G. Perspectives on patient-doctor communication. *J Fam Pract* 1993;37:377-8.
2. Frankel RM, Morse DS, Suchman A, Beckman HB. Can I really improve my listening skills with only 15 minutes to see my patients? *HMO Practice* 1991;5:114-20.
3. Smith RC. Interviewing. In: *The patient's story*. Boston: Little, Brown, and Company, 1996.
4. Goleman D. As cited in: Berger S. Rethink the doc-organization relationship. *Modern Healthcare* 1999;29(13):46.
5. Association of American Medical Colleges. *Medical School Objectives Project, Report III-contemporary issues in medicine: communication in medicine*. Washington, DC: Association of American Medical Colleges, 1999.
6. Laine C, Davidoff F. Patient-centered medicine. *JAMA* 1996;275(2):152-6.
7. Lieberman JA III. Medical education and patients' psychosocial needs. *J Fam Pract* 1999;48:675-6.
8. Miller SZ, Schmidt HJ. The habit of humanism: a framework for making humanistic care a reflexive clinical skill. *Acad Med* 1999;74:800-3.
9. Martinez-Pons M. The relation of emotional intelligence with selected areas of personal functioning. *Imagination, Cognition, and Personality* 1997;17(1):3-13.
10. Davies M, Stankov L, Roberts RD. Emotional intelligence: in search of an elusive construct. *J Pers Soc Psychol* 1998;75(4):989-1015.
11. Stankov L. Mining on the "no man's land" between intelligence and personality. In: Ackerman PL, Kyllonen PC, Roberts RD. *Learning and individual differences: process, trait, and content determinants*. Washington, DC: American Psychological Association, 1999.
12. Elam C. Use of "emotional intelligence" as one measure of medical school applicants' noncognitive characteristics. *Acad Med* 2000;75(5):445-6.
13. Schutte NS, Malouff JM, Hall LE, et al. Development and validation of a measure of emotional intelligence. *Personality and Individual Differences* 1998;25:167-77.
14. Bar-On R. *Bar-On Emotional Quotient Inventory, facilitator's resource manual*. Toronto: Multi-Health Systems, Inc, 1998:2.
15. Bar-On R. *Emotional Quotient Inventory*. Toronto: Multi-Health Systems, Inc, 1997.
16. Bar-On R, Parker, J, eds. *The handbook of emotional intelligence*. San Francisco: Jossey-Bass, 2000:363-88.
17. Saha S, Komaromy M, Koepsell TD, Bindman AB. Patient-physician racial concordance and the perceived quality and use of health care. *Arch Intern Med* 1999;159:997-1004.
18. Goleman D. *Emotional intelligence: why it can matter more than IQ*. New York: Bantam, 1995.
19. Goleman D. *Working with emotional intelligence*. New York: Bantam, 1998.
20. Goleman D. Leadership that gets results. *Harvard Business Review* 2000;78(2):78-90.