

## Emotional intelligence of the third-year Chulalongkorn Medical students

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**Suppapitiporn S, Kanchanatawan B, Tangwongchai S. Emotional intelligence of the third-year Chulalongkorn Medical students. Chula Med J 2006 Mar; 50(3): 165 - 73**

- Objective** : *To identify the level of emotional intelligence of the third-year medical students.*
- Design** : *Cross sectional descriptive study*
- Method** : *The sample consisted of 184 third-year medical students in academic year 2003, Chulalongkorn University. The emotional intelligence portrayed the desirable behavior possessed by emotionally mature persons was measured by using Thai Emotional Intelligence Screening Test. The three main structures featuring emotional intelligence were virtue, competence and happiness.*
- Results** : *The mean score of emotional intelligence as a whole and those on the three main structures of medical students was within the range of normal scores for the Thai population, adjusted for their age. The factors correlating to high emotional quotient scores of medical students were genuine need to be doctor, having hobbies and participating in extra-curricular activities.*

**Conclusion** : *Enhancing emotional skills of medical students is worthwhile. The findings that having hobbies, participating in extracurricular activities and genuine need to be doctor associated with high emotional intelligent scores may be helpful for evaluation and development of emotional intelligence in medical students.*

**Keywords** : *Emotional intelligence, Medical students.*

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Received for publication. September 15, 2005.

ศิริลักษณ์ ศุภพิติพร, บุรณี กาญจนถวัลย์, สุขเจริญ ตั้งวงษ์ไชย. การประเมินความฉลาดทางอารมณ์ในนิสิตแพทย์ชั้นปีที่ 3 จุฬาลงกรณ์มหาวิทยาลัย. จุฬาลงกรณ์เวชสาร 2549 มี.ค.; 50(3): 165 - 73

- วัตถุประสงค์** : เพื่อศึกษาระดับความฉลาดทางอารมณ์ในนิสิตแพทย์ชั้นปีที่ 3
- รูปแบบการวิจัย** : การศึกษาเชิงพรรณนา ณ จุดเวลาใดเวลาหนึ่ง
- วิธีการวิจัย** : ศึกษาในนิสิตแพทย์จุฬาลงกรณ์มหาวิทยาลัยชั้นปีที่ 3 ในปีการศึกษา 2546 จำนวน 184 คน ประเมินความฉลาดทางอารมณ์ด้วยแบบประเมินความฉลาดทางอารมณ์สำหรับประชาชนไทย ซึ่งประกอบด้วยคะแนนเฉลี่ยความฉลาดทางอารมณ์ภาพรวม และคะแนนเฉลี่ยความฉลาดทางอารมณ์ด้านย่อย 3 ด้าน คือ ด้านดี เก่ง สุข สถิติที่ใช้ในการวิเคราะห์ ได้แก่ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน ร้อยละ t-test และ ANOVA
- ผลการศึกษา** : คะแนนเฉลี่ยความฉลาดทางอารมณ์ภาพรวม และด้านย่อย 3 ด้านของนิสิตแพทย์อยู่ในช่วงคะแนนปกติสำหรับประชาชนไทย อย่างไรก็ตามคะแนนเฉลี่ยดังกล่าวมีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติระหว่างนิสิตที่รู้สึกพึงพอใจหรือไม่พึงพอใจในการเรียนแพทย์ และพบว่านิสิตที่เข้าร่วมกิจกรรมของคณะ หรือมีงานอดิเรกมีคะแนนความฉลาดทางอารมณ์สูงกว่านิสิตที่ไม่มีกิจกรรม
- สรุปผลการศึกษา** : การส่งเสริมให้นิสิตแพทย์ได้พัฒนาความฉลาดทางอารมณ์เป็นสิ่งที่น่าจะเป็นประโยชน์อย่างยิ่ง จากผลการศึกษาพบว่า การมีงานอดิเรก การเข้าร่วมกิจกรรมของคณะและความพึงพอใจในการเรียนแพทย์สัมพันธ์ กับคะแนนความฉลาดทางอารมณ์สูง น่าจะมีส่วนช่วยเป็นแนวทางในการประเมินและพัฒนาความฉลาดทางอารมณ์ในนิสิตแพทย์
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A decade ago, the issue about I.Q. (Intellectual Quotient) and E.Q. (Emotion Quotient) was widely mentioned as essential to the success in life. I.Q. and E.Q. were not opposing each other; rather, discrete and synergistic competencies.<sup>(1)</sup>

In a sense, the human brain contains two minds and two different kinds of intelligence : rational and emotional. These two fundamentally different modes of consciousness interact to constitute our mental life. The emotional and rational minds are semi-independent faculties. They operate in tandem most of the time: emotion contributes to, and informs the operations of the rational mind, which refines and sometimes vetoes the inputs of these two partners interact well. Therefore, both E.Q and I.Q abilities enhance each other. Evidently, people with high I.Q. often flounder in their lives, whereas those with modest I.Q. do surprisingly well. The difference may often be attributable to E.Q.<sup>(2)</sup>

Emotional intelligence is the ability to perceive emotion to access and generate emotions as to assist thought, to understand emotions and emotional meanings and to reflectively regulate emotions so as to promote both better emotion and thought. The competencies of emotional intelligence are crucial for self management of emotion and skillful handling of relationships. Some said that emotional intelligence is twice as important as a person's intelligent quotient and technical skills.<sup>(3)</sup>

By the nature of Thai culture, social expectation of a "Doctor" is very high. Not only knowledgeable doctor but they also need a doctor who are empathy, devotion to patients, high morality, high degree of tolerance, good communication skills, and good self-control. There was a study on the relation

between patient satisfaction and physicians' scores with a test of emotional intelligence; a correlation with some subscales of E.Q.<sup>(3)</sup> was found. Understanding the emotional intelligence of doctor since being a medical student may be some beneficial for developing emotional and intellectual growth so the authors would like to assess emotional quotient in Chulalongkorn medical students.

### Method

One hundred and eighty-four medical students in academic year 2003 at Chulalongkorn University were recruited for evaluation of emotional intelligence. All of them were studied in the third-year medical program that were eligible to be sample because generally they could adapt to learning system in the university but still received the same educational program in class. The authors gave informations about objectives of the study and how to complete the questionnaire. They were self report that took time about 20-30 minutes to complete them. The participants did them at the same period after class and they did not need to identified their names. Data on demographic, cumulative grade point average (GPAX), participation with college activities, hobbies, level of satisfaction in medical study and perceived social support were obtained. The emotional intelligence portrayed the desirable behaviors possessed by emotionally mature persons was measured by Thai Emotional Intelligence Test.<sup>(5)</sup>

The three main structures featuring the emotional intelligence were virtue, competence and happiness. The test consists of 52 items. Analysis of the discrimination index in all 52 test items showed that they were able to differentiate between persons

with low and high emotional intelligence score. The reliability coefficient of the whole set of tests and the three main structures were Cronbach's alpha = 0.85, .75, .76 and .81 and split-half (odd-even) reliability = 0.84, .83, .86 and .71 respectively. In this study, the reliability coefficient of the whole set of the test in 184 subjects was Cronbach's alpha = 0.89. The data were analyzed by SPSS for Windows Version 11.5.

### Results

Of the 184 third year medical students in this study, 87 were male (47.3 %) and 97 were female (52.7 %). Their mean age was 21.05 years (SD = 1.93). One hundred and twenty-eight students (69.6 %) were recruited as medical students through entrance examination program, others by special programs. About half of them (n = 107; 58.2 %) had their residence in Bangkok, 16.8 % in central, 8.7% north

east, 7.1 % eastern, 6.5 % southern and 2.7 % northern region. 15.8 % of all the subjects (n = 29) had history of physical illness and 4.9 % (n = 9) had family history of psychiatric illness. Most of them (n = 166; 90.2 %) had parents who lived together.

Regarding their caregivers, 161 cases (87.5 %) had both father and mother; 15 only mothers; 2 only father, 6 cases (3.3 %) relatives. About 60 % (n = 112) lived with their parents, 28.6 % (n = 52) stayed in university campus. There were 78.3 % (n = 144) reported participation in college activities; 97.8 % (n = 180) having hobbies.

The emotional intelligence scores as a whole and those on the three main structures of medical students were within the range of normal score for the Thai population, shown in table 1. The scores were not significantly different between male and female subjects.

**Table 1.** The emotional intelligence scores on the main structures between male and female medical students.

Domains	Elements	Mean E.Q. score (SD) of medical students			Mean of general Population age/18-25
		Male	Female	total	
Virtue	Impulse control	19.05 (2.15)	18.94 (2.07)	18.99 (2.10)	13-18
	Empathy	19.17 (1.86)	19.32 (2.13)	19.25 (2.01)	16-21
	Responsibility	20.67 (1.82)	20.82 (1.92)	20.75 (1.87)	17-23
Competence	Motivating, Goal setting	19.30 (2.30)	19.00 (2.39)	19.14 (2.35)	15-21
	Decision making	18.44 (2.24)	18.32 (2.18)	18.36 (2.20)	14.20
	Interpersonal Relationship	18.23 (2.43)	18.63 (2.43)	18.44 (2.43)	15-20
Happiness	Self-regard	12.60 (1.80)	11.90 (1.79)	12.23 (1.83)	9-14
	Self-actualization	20.16 (2.35)	19.32 (2.59)	19.72 (2.51)	16-22
	tranquility	19.56 (2.67)	20.02 (2.45)	19.80 (2.56)	15-21

Factors associated with emotional intelligence in the three main structures and the total aspects are shown in table 2-4. Students who participated in extracurricular activities had significantly higher mean score of virtue and competence as well as who had hobbies had higher mean score of happiness and

total EQ. Genuine need to be doctor associated with all three main structures of EQ. However it was not found association between EQ, with residence, GPAX, history of physical illness, family history of psychiatric illness and parental status.

**Table 2.** Mean scores on virtue and competence aspect of emotional intelligence between medical students who participated in extracurricular activities and did not (n = 184).

Domain	Who participated in extracurricular activities (n = 144)		Who did not (n = 40)		Analysis	
	Mean	SD	Mean	SD	t	p
Virtue	59.40	4.42	57.53	4.91	2.31	.022*
Competence	56.50	5.71	54.00	5.51	2.47	.014*

**Table 3.** Mean scores on emotional intelligence between medical students who reported having hobbies and did not (n = 184).

	Having hobbies (n = 180)		No hobbies (n = 4)		Analysis	
	Mean	SD	Mean	SD	t	p
Happiness	51.89	5.66	45.50	6.35	2.228	.027*
Total E.Q.	167.05	13.77	150.75	14.66	2.339	.02*

**Table 4.** The emotional intelligence scores between medical students who reported genuine need to be doctor and did not (n = 184).

Domain	Subjects with genuine need to be doctor (n = 144)		Subjects without genuine need to be doctor (n = 40)		Analysis	
	Mean	SD	Mean	SD	t	p
Virtue	59.35	4.52	57.70	4.64	2.026	.044*
Competence	56.73	5.69	53.18	5.08	3.573	.001**
Happiness	52.61	5.33	48.65	6.13	4.023	.001**
Total EQ	168.69	13.61	159.53	12.89	3.808	.001**

## Discussion

Most western E.Q. scales focus on achievement prediction, capacity, ability and motivation to complete task and competition.<sup>(6,7)</sup> Whereas the questionnaire used in this study was established by a team of Thai psychiatrists and psychologists based on Thai culture that emphasizes goodness, mindfulness, peace, happiness as well as competency. Having assessed, the authors agreed that all these characters were essentially needed by those who would be doctors in the future.

The result shows that average E.Q. score of medical students of Chulalongkorn University was in normal or upper normal level, adjusted for their age. We know that those who fail to master the competencies of E.Q. face a spectrum of heightened psychiatric risks, such as mood and anxiety disorders, eating disorders and substance abuse.<sup>(2)</sup> In Thailand, many studies examined psychiatric disorders in medical students. Siriraj medical school reported of psychiatric disorder in students was about 1.08 case/1000 /year, most were mood disorders<sup>(8)</sup>, while the average incident of psychiatric disorders in all undergraduate students at the University of Khon Kaen by average was about 4.64 cases/1000/year.<sup>(9)</sup> A study of mental health of medical students at Srinakharinwirot University identified their significant stressors such as relationship with their parents, friends and teachers.<sup>(10)</sup> Another study revealed that stress of the residents of Ramathibodi Hospital, as related to family problems and working with colleagues.<sup>(11)</sup> The level of emotional intelligence and stress were negatively correlated in all dimension of emotional intelligence ( $r = 0.352$ ). Chiang Mai medical students with lower level of emotional intelligence

tend to be more stressed, while those with high level tend to have a normal level stress.<sup>(12)</sup>

These data supported that the problems of emotional skills, i.e. maintaining good relationship, self-control, were significant. Without proper treatment they can induce psychiatric disorders which would disturb their quality of life and function as doctors who are going to be responsible to lives of the people. So concern the issues about emotional intelligence and mental problems in medical students are valuable.

Our outcome shows some other important factors related to high emotional quotient, such as a genuine need to serve as a doctor and their participation in extracurricular activities which include hobbies. In psychology, a genuine need to be a doctor shows their strong direction and identity. At the university admission period when they were still in their adolescence, it was actually the stage of "Role identity vs. Role confusion", following Erickson's psychological task.<sup>(13)</sup> People who recognized their feeling and aims in life would set direction to go properly. On the contrary, those who have identity confusion, do not know what they really need. And they let the outside environment (including parental expectation, social value, etc.) influence their decision making. Although they may finally discover themselves, but time and money were wasted. This gives limited chance for them to step out of the system. They mostly graduate because their high I.Q. which allow them to carry on but they could not satisfy themselves as they should have done. They also have a high possibility to change their job whenever an alternative is provided. It is therefore a national loss for useless investment that we cannot afford to say that it is just a little waste of human resource.

Another important factors was the participation in extracurricular activities and having hobbies. Being an "activist" may be an output from high E.Q.; also "doing extracurricular activities" establishes high E.Q. People with high E.Q. also have high motivation, empathy, responsibility and good interpersonal relationships that drive them to start creative activities. Furthermore, their emotional skills such as good relationship, responsibility, decision making, and skills in problem solving facilitate them to complete their tasks with success. The sense of achievement serves as a mental reward which motivates them to repeat those behaviors.

From another point of view, extracurricular activities and hobbies promoted a lot of emotional skills such as responsibility, creativity, management of emotion, maintenance relationship, adaptability and decision making. Since these skills of emotional intelligence are teachable, children and adolescents should be offered the opportunities to strengthen these competencies by doing activities with others.<sup>(2)</sup>

Two channels proposed to develop emotional maturity in medical students. First is the process of selection of the students. In the past, the main part of selection of medical students was knowledge. Nowadays, as we known, some medical schools set up extra scores that included many skills represented some aspects of E.Q. into the process of entry. Second is the process of teaching and learning. As mentioned above, E.Q. is teachable. We can promote E.Q. of medical students by the process of teaching and learning. The studying atmosphere and extracurricular activities should work together to teach medical students to overcome their negative emotion, and to maintain good relationship, to motivate and

control themselves, and remain their focus on happiness and success. Both strategies focusing on the process of selection and academic activities should be raise the E.Q. of medical students.

There are some limitations of the present study. First, it was a cross-sectional study. Second, all questionnaires were self-reported so data was based on medical students' point of view. Nevertheless our findings provided some informations for understanding and promoting emotional intelligence.

### Conclusion

Enhancing emotional skills of medical students is worthwhile. The findings that having hobbies, participating in extracurricular activities and genuine need to be doctor associated with high emotional intelligent scores may be helpful for evaluation and development of emotional intelligence in medical students.

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