

Review Article

INTER PERSONAL EMOTIONAL INTELLIGENCE AND ORIGENCE IN MEDICAL STUDENTS

***Karthek R. Balapala**

CRNCD, FMHS, University Tunku Abdul Rahman, Malaysia

**Author for correspondence*

ABSTRACT

University medical education traditionally emphasizes physician's biomedical knowledge with less emphasis on interpersonal skills and ability to relate to the patients. Regulation of emotions in others is distinct from other activities related to trait emotional intelligence in that it can change psychological states of other people directly. Emotional intelligence has been mostly associated with prosociality, but emotionally intelligent people can manipulate others' behaviors to suit their own interests using high level capability to read and manage the emotions of others. People with high interpersonal emotional intelligence influence other peoples' emotions based on their own goals. Self efficacy in medical related skills, plays an important role in maintaining challenge appraisals to maintain pleasant emotions and better academic performance.

Keywords: *Emotional Intelligence, Reasoning, Medical University, Behaviour, Empathy*

INTRODUCTION

In medical education, strategies to enhance behavioural expression of empathy or retard its decay made medical students clinically competent to both examiners and patients (Ogle *et al.*, 2013). Neuroticism was influencing psychological health of medical students during stressful testing period. Various personality traits, emotional intelligence and previous academic performance were associated factors of psychological health during a less stressful period (Yusoff *et al.*, 2013). Clinical reasoning was considered a thinking having no correlation detected with other constructs. Emotional intelligence and its subscales was used for clinical reasoning prediction (Ashoorion *et al.*, 2012). Strategies strengthening emotional intelligence in leaders included keeping an emotional journal, daily meditation, positive visualization, thought before action, appreciative inquiry and empathetic listening. Skills to enhance emotional intelligence were self awareness, self management, social management, and relationship management (Scott, 2013). Research has shown that empathy declines during medical school graduation (Batt-Rawden *et al.*, 2013). Incorporation of visual arts, literature and music into the curriculum was not to teach professionalism but, to offer students a viable, lifelong tool to reorient themselves along in the training process (Mullangi, 2013). The interest motivated profile of medical students was associated with good study hours, deep study strategy, good academic performance and low exhaustion from study. The interest status motivated profile was found to be associated with a good learning profile, but students with this profile showed higher surface strategy. Low motivation and status motivated profiles were associated with the least desirable learning behaviours (Kusurkar, 2013).

For Physicians and Doctors

Proper application of a methodical evaluation of communication competences, diagnosing educational needs of occupationally active physicians was needed to allow the preparation of courses in accordance with the needs in the area of professional communication competences (Włoszczak-Szubzda and Jarosz, 2013). Clinical practice had an impact on empathy development and was instrumental in maintaining empathetic skills with age (Handford and Lemon, 2013). Attachment style and emotional intelligence (EI) were potential factors to influence the variation in medical students' and doctors' patient provider communication relating to emotive issues (Cherry *et al.*, 2013). Japanese female students were conscious about emotionality. Emotion driven communication exercises influenced the development of students' EI (Abe *et al.*, 2013). Differences in backgrounds and perceptions of the study of medicine, were found in medical students interested in non clinical careers from their peers (Kim *et al.*, 2013). Programs of life

Review Article

skills training increased the levels of emotional intelligence of students, leading to academic success, reduced substance abuse and increased stress tolerance (Lolaty *et al.*, 2012). Study done on cultural competency in pharmacy students showed that ideologies and behaviors can be altered based on the educational intervention received (Sales *et al.*, 2013). Methylphenidate was not beneficial in increasing memory or learning, only increases wakefulness and alertness, reducing the time of sleep (Finger *et al.*, 2013). Medical students need to be provided with additional learning and feedback opportunities to exercise both skills combined for applying in physicians' daily practice (Ohm *et al.*, 2013). Student generated video activity gave a positive experience that enabled to play the major role in driving the learning process in first year dental students (Omar *et al.*, 2013). Empathy had a weak association with person orientation and links between empathy and the three motivation scores was low (Gonçalves-Pereira *et al.*, 2013). A mind body course increased self regulation and self compassion in medical students (Bond *et al.*, 2013). Responsibility subscale differed between men and women. Happiness subscale was a good predictor for emotional intelligence score (Ghajarzadeh and Mohammadifar, 2013). Medical students who were emotionally intelligent performed better in continuous assessments and the final professional examination as well (Chew *et al.*, 2013). Similarities in gender were found among Swedish medical students' specialty preferences contrasting with research from other western countries where male and female students showed differences in career aspirations (Diderichsen *et al.*, 2013). The concept of EI was associated with performance in medical school, suggesting incorporation of assessments of EI into curriculum as part of a Personal and Professional Development programme (Doherty *et al.*, 2013). Sharing meaningful practice based stories was a method of learning, strengthening professional identity and stimulating intrinsic motivation. More space for this form of reflection restores the balance with external control systems (Witman *et al.*, 2013). Civilly committed sex offenders had higher levels of empathy compared to the general population, and their levels of anger, aggression, and hostility were similar to male college students. Somatization being comparable to psychiatric outpatients. A big proportion reported at least one form of childhood trauma and childhood sexual abuse (Hulme and Middleton, 2013).

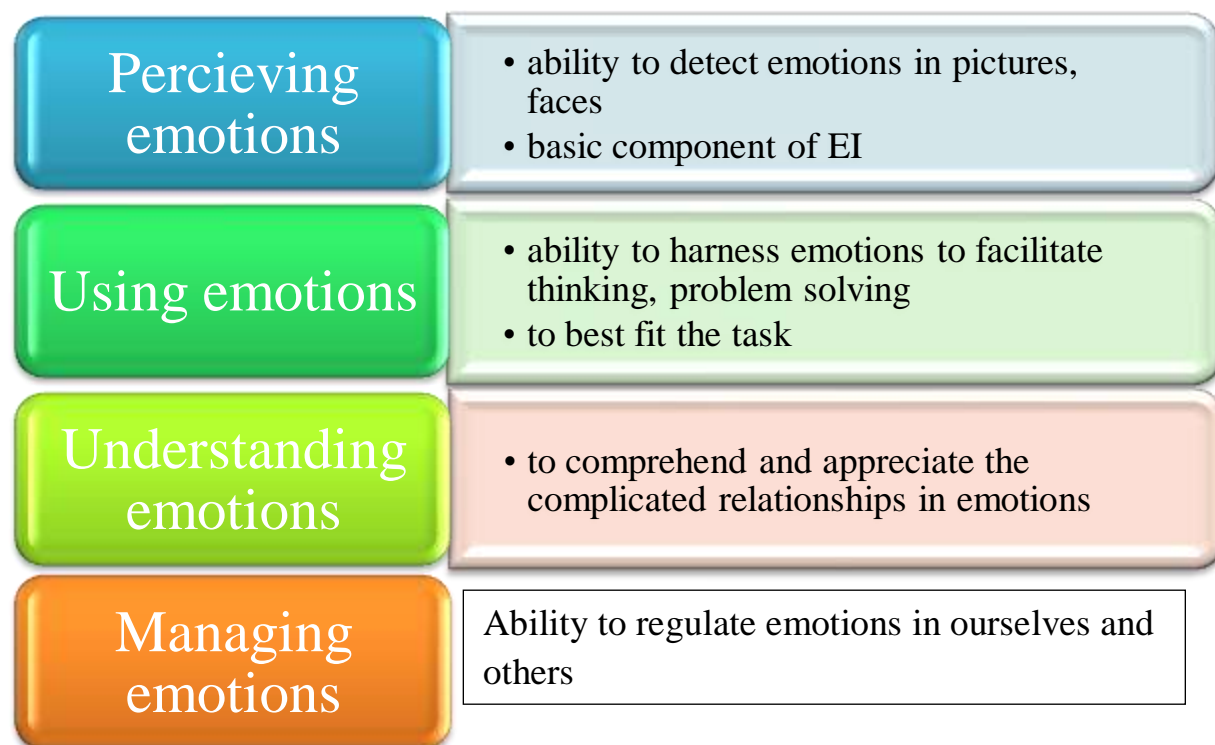


Figure 1: Abilities of emotional intelligence *Understanding motivation in medical students*

Review Article

Combination of Task based learning, and problem based learning in a mature design improved motivation and understanding among fourth year student learners (Fujikura *et al.*, 2013). Intellectual curiosity, altruism, professional autonomy, and interest in human relationships were the most common reasons for choosing medicine as a career. Medical students motivated by personal illness, ill health of a family member or death showed a greater emotional exhaustion compared to students with other motivations. Primary prevention strategies for burnout students are needed for this at risk group (Pagnin *et al.*, 2013). Year one medical students showed higher anxiety, decreased academic motivation and a maladjusted leisure/social life, which did not affect their academic achievement (Del-Ben *et al.*, 2013). The study findings illustrated a decline in empathy among both genders during physician assistant (PA) training, similar to other health care providers' educations, supporting the need for further conversation regarding role for empathy assessment and curricula in PA education. This study was done using the Jefferson Scale on Physician Empathy (Mandel and Schweinle, 2012). The quantitative study showed that objective structured clinical examination (OSCE) and facilitation of both understanding and memorizing the learning material, were the two most motivating items. The demotivating aspects were, other students saying that preparation was not useful and other indistinct preparatory advices. Students made an active and complex choice whether to prepare or not, depending on multiple factors (Aalbers, 2013). Attachment avoidance was negatively correlated with EI. EI was positively correlated with OSCE scores. Attachment was perceived to be stable from early adulthood, but EI could be developed only through the use of targeted interventions (Cherry *et al.*, 2013). Improved medical education in pain was found to be essential to prepare providers who manifest both competence and compassion toward the patients (Murinson *et al.*, 2013). The study suggests a high prevalence of stimulant use among medical students compared with the general population. Personal experience with such medications as medical students impacts physician attitude and prescribing patterns toward patients seeking help for attention deficit hyperactivity disorder (ADHD) related symptoms (Webb *et al.*, 2013). Teamwork training was recommended early in undergraduate medical curricula to promote collaborative learning. Teamwork training is needed during residency training, where physicians participated in differing roles with patient care teams. Training in EI must be extended beyond graduate medical training to confer the skills needed by clinicians and by faculty in academic medical centers (Stoller *et al.*, . 2013). Male paramedic students had higher empathy than female paramedic students. The empathy level was lowest among year one paramedic students. Compassion towards substance abuse was low (Williams *et al.*, 2013).

Studies Done in Europe and Middle East

Female medical students completing an endo urological simulator task, passed the theoretical examination in the basic surgical sciences with better scores than females with low efficiency in the urological simulator suggesting a correlation with motivation and a lower amount of current video gaming experience (Schlickum *et al.*, 2013). The study done by using Socio Cultural Attitudes in Medicine Inventory, the Jefferson Scale of Empathy and the Nijmegen Professionalism Scale, to all the students of the C curriculum in Medicine of Sapienza University of Rome (Italy), revealed no differences related to gender or type of high school for the three examined components. A trend was noted towards a familiar influence when one of the parents was a doctor and an idea of professionalism was more technically oriented than addressed to communication and empathy (Consorti *et al.*, 2012). 46% students revealed strong motivation. A moderate correlation was found between preadmission scores and academic success in year one modular examination, which became weaker in various professional examinations in higher classes. No correlation was observed between motivation and academic success of medical students (Luqman, 2013). Multiple factors inspired the medical students of Kuwait in choosing a future medical specialty. When identified, these factors could be used by mentors of medical students and directors of residency training programs to motivate students in choosing suitable specialties that are limited in Kuwait (Al-Fouzan *et al.*, 2012).

Assessment Methods

Students showed a preference for voluntary basic skills lab training sessions, relevant to clinical skills assessment, especially at the beginning and at the end of the term. Voluntary advanced skills lab training

Review Article

sessions without reference to clinical skills assessment were used efficiently at the beginning of the term, but declined towards the end of term (Buss *et al.*, 2012). Empathy increased significantly after first year of medical education. The difference between two education systems, medical college and medical school, did not affect the changes in empathy (Hong *et al.*, 2012). The primary focus on literary characteristics of patients' and physicians' discourses, without ignoring psychoanalysis theory, was found to be safe for young students. Writing exercises were encouraged but not mandatory. Reading was optional if ever they feel embarrassed after producing their own texts, suggesting that impact of Narrative medicine students' attitudes and behaviors need to be assessed before implementing new educational programs (Goupy *et al.*, 2013). Increased opportunities of interactions between students and psychiatrists or psychiatric patients improved recruitment of physicians in psychiatry (Andlauer *et al.*, 2012). Students identified the need for strong positive role models in their learning environment, and for effective evaluation of the professionalism of students and teachers. The study suggests medical school leaders to facilitate development of these components within the Doctor of Medicine (MD) education and faculty development programs as well as in clinical milieus where student learning occurs (Byszewski *et al.*, 2012). Effective educational programmes facilitated empathic skills and empathic tendency in medical and nursing students. Both male and female students benefitted from empathy course (Ozcan *et al.*, 2012).



Figure 2: Components of emotional literacy

CONCLUSION

EI, measured by an abilities test at the time of admission, did not predict future academic performance in medical students. Leadership is a core component of the work life of physicians, but many are ill prepared to assume leadership roles upon completion of residency program. Learning of components of emotional intelligence, facilitates improved leadership styles (Johnson and Stern, 2014). Medical educators must incorporate emotional intelligence in medical curriculum which contributes to student centered education, patient centered practice, work place satisfaction and effective communication skills. Good control of emotions in self was associated with good relationship with superiors and colleagues. Getting married and those who voluntarily have chosen their specialty post graduation training courses like surgery, ophthalmology and psychiatry were more confident and empathizing. Medical students with some major problem at home were more aware of their own emotions and other's feelings (Faye *et al.*, 2011).

REFERENCES

Aalbers MW and Hommes J *et al.*, (2013). Why should I prepare? A mixed method study exploring the motives of medical undergraduate students to prepare for clinical skills training sessions. *BMC Medical Education* **13** 27. doi: 10. 1186/1472-6920-13-27.

Review Article

- Abe K and Evans P et al., (2013).** Expressing one's feelings and listening to others increases emotional intelligence: a pilot study of Asian medical students. *BMC Medical Education* **13** 82. **Al-Fouzan R and Al-Ajlan S et al., (2012).** Factors affecting future specialty choice among medical students in Kuwait. *Medical Education Online* **17**:1-7. doi: 10. 3402/meo. v17i0. 19587.
- Andlauer O and Guicherd W et al., (2012).** Factors influencing French medical students towards a career in psychiatry. *Psychiatria Danubina* **1**(Suppl) S185-90.
- Ashoorion V, Liaghatdar MJ and Adibi P (2012).** What variables can influence clinical reasoning? *Journal of Research in Medical Sciences* **17**(12) 1170-5.
- Batt-Rawden SA and Chisolm MS et al., (2013).** Teaching empathy to medical students: an updated, systematic review. *Academic Medicine* **88**(8) 1171-7. doi: 10. 1097/ACM. 0b013e318299f3e3.
- Bond AR and Mason HF et al., (2013).** Embodied health: the effects of a mind-body course for medical students. *Medical Education Online* **18** 1-8. doi: 10. 3402/meo. v18i0. 20699.
- Buss B and Krautter M et al., (2012).** Can the 'assessment drives learning' effect be detected in clinical skills training?-implications for curriculum design and resource planning. *GMS Zeitschrift für Medizinische Ausbildung* **29**(5) Doc70. doi: 10. 3205/zma000840. Epub 2012 Nov 15.
- Byszewski A and Hendelman W et al., (2012).** Wanted: role models--medical students' perceptions of professionalism. *BMC Medical Education* **12** 115. doi: 10. 1186/1472-6920-12-115.
- Cherry MG, Fletcher I and O'Sullivan H (2013).** Exploring the relationships among attachment, emotional intelligence and communication. *Medical Education* **47**(3) 317-25. doi: 10. 1111/medu. 12115.
- Cherry MG, Fletcher I and O'Sullivan H (2013).** The influence of medical students' and doctors' attachment style and emotional intelligence on their patient-provider communication. *Patient Education and Counselling* **93**(2) 177-87. doi: 10. 1016/j. pec. 2013. 05. 010. Epub 2013 Jun 6.
- Chew BH, Zain AM and Hassan F (2013).** Emotional intelligence and academic performance in first and final year medical students: a cross-sectional study. *BMC Medical Education* **13** 44.
- Consorti F, Potasso L and Toscano E (2012).** The concept of medical professionalism of medical students: basic assessment for a cohort study. *Clinical Therapeutics* **163**(6) e377-86.
- Del-Ben CM and Machado VF et al., (2013).** Relationship between academic performance and affective changes during the first year at medical school. *Medical Teacher* **35**(5) 404-10.
- Diderichsen S and Johansson EE et al., (2013).** Few gender differences in specialty preferences and motivational factors: a cross-sectional Swedish study on last-year medical students. *BMC Medical Education* **13** 39. doi: 10. 1186/1472-6920-13-39.
- Doherty EM, Cronin PA and Offiah G(2013).** Emotional intelligence assessment in a graduate entry medical school curriculum. *BMC Medical Education* **13** 38. doi: 10. 1186/1472-6920-13-38.
- Faye A and Kalra G et al., (2011).** Study of emotional intelligence and empathy in medical postgraduates. *Indian Journal of Psychiatry* **53**(2) 140-4. doi: 10. 4103/0019-5545. 82541.
- Finger G, Silva ER and Falavigna A (2013).** Use of methylphenidate among medical students: a systematic review. *Revista da Associação Médica Brasileira* **59**(3) 285-9.
- Fujikura T and Takeshita T et al., (2013).** Team-based learning using an audience response system: a possible new strategy for interactive medical education. *Journal of Nippon Medical School* **80**(1) 63-9.
- Ghajarzadeh M and Mohammadifar M (2013).** Emotional intelligence of medical residents of Tehran University of Medical Sciences. *Acta Medica Iranica* **51**(3) 185-8.
- Gonçalves-Pereira M et al., (2013).** Empathy as related to motivations for medicine in a sample of first-year medical students. *Psychological Reports* **112**(1) 73-88.
- Goupy F and Abgrall-Barbry G et al., (2013).** Can narrative medicine be an answer to patient physician relationship teaching according to students' demand in medical education curricula? *La Presse Médicale* **42**(1) e1-8.
- Handford C and Lemon J et al., (2013).** Empathy as a function of clinical exposure--reading emotion in the eyes. *PLoS One* **8**(6) e65159. doi: 10. 1371/journal. pone. 0065159. Print 2013.
- Hong M and Lee WH et al., (2012).** Changes of empathy in medical college and medical school students: 1-year follow up study. *BMC Medical Education* **12** 122. doi: 10. 1186/1472-6920-12-122.

Review Article

- Hulme PA and Middleton MR (2013).** Psychosocial and developmental characteristics of civilly committed sex offenders. *Issues in Mental Health Nursing* **34**(3) 141-9.
- Johnson JM and Stern TA (2014).** Teaching Residents About Emotional Intelligence and Its Impact on Leadership. *Academic Psychiatry*.
- Kim KJ and Park JH et al., (2013).** What is different about medical students interested in non-clinical careers? *BMC Medical Education* **13** 81. doi: 10. 1186/1472-6920-13-81.
- Kusurkar RA and Croiset G et al., (2013).** Motivational profiles of medical students: association with study effort, academic performance and exhaustion. *BMC Medical Education* **13** 87.
- Lolaty HA and Ghahari S et al., (2012).** The effect of life skills training on emotional intelligence of the medical sciences students in Iran. *Indian Journal of Psychological Medicine* **34**(4) 350-4.
- Luqman M (2013).** Relationship of academic success of medical students with motivation and pre-admission grades. *Journal of the College of Physicians and Surgeons Pakistan* **23**(1) 31-6.
- Mandel ED and Schweinle WE (2012).** A study of empathy decline in physician assistant students at completion of first didactic year. *Journal of Physician Assistant Education* **23**(4) 16-24.
- Mullangi S (2013).** The synergy of medicine and art in the curriculum. *Academic Medicine* **88**(7) 921-3.
- Murinson BB and Gordin V et al., (2013).** Recommendations for a new curriculum in pain medicine for medical students: toward a career distinguished by competence and compassion. *Pain Medicine* **14**(3) 345-50.
- Ogle J, Bushnell JA and Caputi P (2013).** Empathy is related to clinical competence in medical care. *Medical Education* **47**(8) 824-31. doi: 10. 1111/medu. 12232.
- Ohm F and Vogel D et al., (2013).** Details acquired from medical history and patients' experience of empathy--two sides of the same coin. *BMC Medical Education* **13** 67. doi: 10. 1186/1472-6920-13-67.
- Omar H, Khan SA and Toh CG (2013).** Structured student-generated videos for first-year students at a dental school in Malaysia. *Journal of Dental Education* **77**(5) 640-7.
- Ozcan CT, Oflaz F and Bakir B (2012).** The effect of a structured empathy course on the students of a medical and a nursing school. *International Nursing Review* **59**(4) 532-8.
- Pagnin D and De Queiroz V et al., (2013).** Burnout and career choice motivation in medical students. *Medical Teacher* **35**(5) 388-94. doi: 10. 3109/0142159X. 2013. 769673. Epub 2013 Mar 4.
- Sales I and Jonkman L et al., (2013).** A comparison of educational interventions to enhance cultural competency in pharmacy students. *The American Journal of Pharmaceutical Education* **77**(4) 76.
- Schlickum M and Felländer-Tsai L et al., (2013).** Endourological simulator performance in female but not male medical students predicts written examination results in basic surgery. *Scandinavian Journal of Urology* **47**(1) 38-42. doi: 10. 3109/00365599. 2012. 693538. Epub 2012 Jul 2.
- Scott J (2013).** How healthcare leaders can increase emotional intelligence. *Radiology Management* **11**-6.
- Stoller JK, Taylor CA and Farver CF(2013).** Emotional intelligence competencies provide a developmental curriculum for medical training. *Medical Teacher* **35**(3) 243-7. doi: 10. 3109/0142159X. 2012. 737964. Epub 2013 Jan 29.
- Webb JR, Valasek MA and North CS (2013).** Prevalence of stimulant use in a sample of US medical students. *Annals of Clinical Psychiatry* **25**(1) 27-32.
- Williams B, Boyle M and Earl T (2013).** Measurement of empathy levels in undergraduate paramedic students. *Prehospital and Disaster Medicine* **28**(2) 145-9.
- Witman Y, van den Kerkhof PC and Braat DD (2013).** Medical professionals on the subject of their core values: the importance of practice-based stories and intrinsic motivation. *Nederlands Tijdschrift voor Geneeskunde* **157**(11) A5698.
- Wloszczak-Szubzda A and Jarosz MJ (2013).** Selected aspects of a professional doctor-patient communication--education and practice. *Annals of Agricultural and Environmental Medicine* **20**(2) 373-9.
- Yusoff MS and Esa AR et al., (2013).** A longitudinal study of relationships between previous academic achievement, emotional intelligence and personality traits with psychological health of medical students during stressful periods. *Education for Health (Abingdon, England)* **26**(1) 39-47.