International Journal of Multiphysics
Volume 18, No. 3, 2024
ISSN: 1750-9548

An Overview on Developing Emotional Intelligence

Shimaa Alaa Mohamed Ahmed Elsayed [1], Elsayed Hassan Abdelhamid [2], Marwa B Awad Allah [3], -Lamyaa Elsayed Nasr Saeed Asker [4]

1 Demonstrator of Public Health and Community Medicine, Faculty of medicine, Zagazig University, shimaa.alaa.omar@gmail.com

2 Professor of Public Health and Community Medicine, Faculty of medicine, Zagazig University, dr.elsayedhasssn@gmail.com

3 Professor of Public Health and Community Medicine, Faculty of medicine, Zagazig University, MBMuhammad@medicine.zu.edu.eg

4 Lecturer of Public Health and Community Medicine, Faculty of medicine, Zagazig University, LENaser@medicine.zu.edu.eg

***Corresponding author:** Shimaa Alaa Mohamed Ahmed Elsayed

Email: shimaa.alaa.omar@gmail.com,

Abstract:

Emotional intelligence (EI) is a critical competency that influences individuals' ability to understand, regulate, and utilize emotions effectively in personal and professional contexts. In medical education, EI plays a vital role in enhancing students' academic performance, stress management, communication skills, and clinical outcomes. Higher EI levels have been associated with improved leadership abilities, reduced burnout, and better patient care. Unlike cognitive intelligence, EI can be developed through targeted training programs and educational interventions. However, the influence of socio-demographic factors such as age, gender, and educational background on EI remains inconclusive, particularly among medical students. In Egypt, there is a scarcity of studies assessing EI among senior medical students, especially in public universities like Zagazig University. Therefore, understanding the current level of EI and its determinants is essential for designing effective educational strategies and integrating EI into medical curricula.

Keywords: Emotional intelligence; Medical students; Academic performance; Training programs; Socio-demographic factors; Medical education; Stress management

Introduction:

Emotional intelligence (EI) has become an essential component of human performance, particularly in professions that require complex interpersonal interactions such as medicine. EI is defined as the ability to perceive, understand, manage, and regulate emotions in oneself and others. Unlike traditional cognitive intelligence, which is relatively stable, emotional intelligence is considered a flexible and developable skill that can improve over time through learning and experience **(1)**.

In medical education, emotional intelligence plays a critical role in enhancing students' academic performance, communication skills, and clinical competence. Medical students are frequently exposed to stressful environments, including academic pressure and emotionally demanding clinical situations. Studies have shown that higher levels of EI are associated with better stress management, improved empathy, and enhanced doctor–patient relationships, ultimately leading to improved healthcare outcomes **(2)**.

Recent trends in education highlight the importance of integrating emotional intelligence into medical curricula. Training programs such as workshops, reflective learning, and communication skills sessions have demonstrated effectiveness in improving EI among students. Evidence suggests that targeted interventions can significantly

enhance emotional awareness and regulation, supporting the concept that EI is a trainable and adaptable skill rather than a fixed trait **(3)**.

Several socio-demographic factors have been studied as potential determinants of emotional intelligence, including age, gender, educational level, and cultural background. However, findings remain inconsistent across different populations. Some studies report higher EI levels among females, while others show no significant gender differences. Similarly, the relationship between age and EI development remains unclear, particularly among medical students at different stages of their education **(4)**.

Emotional intelligence is increasingly recognized as an important competency in medical education and practice, as it contributes to better communication, empathy, and clinical performance among medical students **(5).**

In developing countries, including Egypt, there is limited research addressing emotional intelligence among medical students, especially in senior academic years. Understanding the level of EI and its influencing factors is essential for improving educational strategies and preparing future physicians. Therefore, assessing emotional intelligence among medical students can provide valuable insights for integrating EI development into medical education and enhancing both academic and clinical performance **(6).**

3.1 Training and Interventions in Medical Schools

When students are required to perform numerous roles with performance and effectiveness in today's competitive world, students need to recognize their right position and emotional intelligence (EI) toward the unseen subtle intricacies of life and good education. The recently proposed modern education policy is largely concerned with improving the quality of education by making students emotionally intelligent **(7).**

Compared to cognitive intelligence, which remains generally stable throughout the course of one's life, emotional intelligence has the potential to be enhanced and improved with time **(8)**.

According to some scientists, emotional intelligence is innate, while others believe it can be learned and perfected. Coaching is an excellent solution to develop these skills and apply them daily at work **(9).**.With training , there is moderate and positive effect of training on EI indicating that This type of intelligence is not a fixed measurement but can be developed throughout one's life . **(10).**

Since emotional intelligence can be educated and gained, it can be relied upon to lessen the occupation worry of medicinal school workforce by instructing emotional intelligence to them **(11)**

EI interventions used in educational contexts are typically integrated into general undergraduate or management classes or provided to professional students entering jobs characterized by high emotional labor **(10)**.

Training programs consisting of workshops, group discussion, workbook exercises, and homework assignments can greatly improve individual's EI levels **(11)**

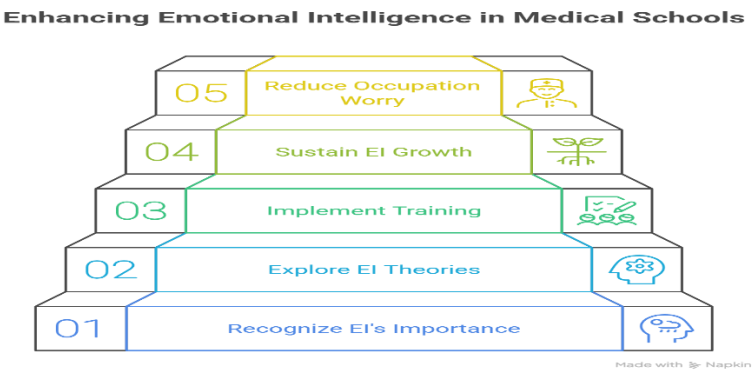

Figure (1) EI training in medical education (12).

Note. Image created using [Napkin] AI image generator ([Napkin AI], 2026)

3.2 Socio-demographic Factors Affecting EI

To successfully design, test, and establish practical training in EI, it is essential to first consider factors that could influence trait EI, such as gender, age, and previous work experience Understanding factors associated with higher trait EI among medical students is important for designing effec tive educational interventions aimed at strengthening their EI **(5)**.

EI can be influenced by biological, psychological and social factors which mostly interacts with demographic characteristics. Thus, it can be considered that demographic characteristics have the potential to affect individuals' emotional intelligence levels. For instance, gender, age, educational level, marital status, race, income, working sector, or working time are some of them **(13, 14)**

Previous literature debates whether demographic variables affect EI level or not, some studies have reported that demographic variables significantly and positively affect emotional intelligence **(15, 16**). while others have proved that demographic variables do not influence the level of emotional (**17**).

In medical students the association between sociodemographic factors and EI is inconclusive **(18).** Some studies show that women have higher EI than men **(19-21),** while others have found no differences between women and men (**22, 23).** Furthermore, it is unclear whether these possible gender differences persist across different stages of medical education or whether they are influenced by the progression of semesters **(5)**.

3.3 Need for the Present Study

Human capabilities and skills such as persuasion, social understanding, and empathy will become more and more prized over the next decade; these will become differentiators as artificial intelligence, machine learning, and automation take over our other tasks. Unfortunately, these human-oriented skills are often not recognized as primary skills. It is important to recognize strengths and weaknesses when it comes to emotional intelligence and to invest in developing and integrating mediums to both teach and embed emotional intelligence into the curriculum **(24)**.

Higher EI may improve academic performance in the medical students. EI incorporation into medical curriculum may help students to identify their emotional traits and it gives opportunity to train them to a better level and to handle emotional intelligence, thereby improving academic performance. **(25)**

The modest goal of this research is to draw attention to the value of knowing one’s own EI level, and to emphasize that, with the correct support, it is possible and encouraged to reach one's EI full potential.

The findings should help those working on medical school curricula and health care policy to better equip future doctors with the emotional intelligence (EI) necessary to thrive in the challenging medical field.

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