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## REVIEW ARTICLE

# A REVIEW OF EMOTIONAL INTELLIGENCE STUDIES IN MEDICAL EDUCATION AND PRACTICE

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### ABSTRACT

Research on emotional intelligence is flourishing in recent past but the current state of it is slightly paradoxical. Emotional intelligence has a pivotal role to play in an emotionally laden environment like healthcare. This study is an attempt to know and understand the current state of research on emotional intelligence in a medical context. Relevant literature is found through selected databases and seven systematic reviews focused on medical education and practices are selected to study in detail. Quality appraisal of selected studies are carried out and the composite result of these studies is presented in this paper. The result of this study supports the positive utilization of emotional intelligence in medical education and practice by carefully considering all critics. A potential area of further research is suggested.

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## INTRODUCTION

Although the current state of Emotional Intelligence [EI] is slightly paradoxical, it is a popular individual difference construct in the field of psychology. There is a momentum in the field of psychology in 1995 after the popularization of a book titled "Emotional Intelligence: Why it can matter more than IQ" by Daniel Goleman. Prior to his book, Salovey & Mayer (1990) have defined and provided a framework for emotional intelligence. According to them emotional intelligence can be considered as a subset of social intelligence that defined as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p.189)

In a comparison of other constructs of social sciences, emotional intelligence has produced maximum controversy in the recent past (Spector & Johnson, 2006). Goleman gets criticized for his work by some psychologist for lack of scientific rigor in his studies. Locke (2005) strongly believes that it is more fertile to use the concept of introspective skill instead of emotional intelligence. He argued that EI is not a form of intelligence and defined broadly. Hence it is an invalid concept. Landy (2005) argued that the EI concept is based on social intelligence which itself is discredited, major research on EI characterized by weak research design and various

instruments to measure EI shortfall scientific rigor. One more addition to these arguments by Murphy (2006) is that the future of EI is optimistic but it has a long way to go to beat the drum. Caruso (2003) noted that EI stays robust in the midst of various criticisms and there is an influx of academic research in this field. Emotional intelligence is successful in luring more and more researchers to study it as an individual difference construct (Ashkanasy & Daus, 2005) The result of meta-analysis done by Van Rooy & Viswesvaran (2004) has shown that although the correlation between EI and job performance is not as high as many have claimed, EI can be considered a predictor of performance and definitely worthy of further research. Joseph & Newman (2010) through meta-analysis have concluded that for job performance, EI explains variance more than personality and cognitive skills. After 20 years of experience in research-based EQ practice in coaching and consulting recently Ackley (2016) has concluded that EQ has the potential to deliver psychological expertise to the human resources of an organization. In his one of the exercise during EQ workshops, he had asked business leaders to take either of support side or opposite to it the side of people who feel it is an oxymoron. He has observed that the number of people who take the opposite stand is reducing. Today many companies, named a few like Johnson and Johnson, American Express,

Office of personnel management in Federal Government, the USA using emotional intelligence for hiring, coaching and developing their workforce and fostering scientific research on it with the help of consortium for research on emotional intelligence. Healthcare is an emotion-laden setting. Healthcare workers are overwhelmed by emotional demands especially who is in direct contact of the patients (Goleman, n.d.). It is quite imperative for healthcare workers to have a balance in emotions. They are expected to emotionally connect with patients and relatives to give patient satisfaction at the same time they have to fortify themselves from experiencing compassion fatigue. Goleman (1996) in his book titled "Working with emotional intelligence" has mentioned that doctors who are more aware of their patient's emotions are more successful in treating them and get patient loyalty. Hence emotional intelligence plays a crucial role in healthcare settings and worth to explore. Hence the main objective of this study is to know the current state of research on emotional intelligence with respect to medicinal education as well as practice and to identify the potential research gaps.

## METHODS

In order to search the best literature, databases like MEDLINE, PMC, PsycARTICLES are selected. Search words are like emotional intelligence, healthcare professionals, doctors, etc. are used. There is no restriction about study design, journal category, and subject of the study but to the English language. List of scholarly articles is retrieved from the EI consortium website which aids the research-based practice on emotional intelligence.

## SEARCH RESULTS

Search from the above-mentioned database yielded a total of 132 titles (Medline-43, PMC-36, PsycARTICLES- three, EI consortium-50). Out of these titles, 36 titles are removed due to duplication, commentary, and opinion. Title and abstract of remaining papers are scanned and finally, seven systematic review papers are selected for this study. The main reason to choose systematic review for this study is that it is summary of existing available research and consider as the strongest form of medical evidence (Moher, Tetzlaff, Tricco, Sampson, & Altman, 2007). Full text of all selected studies is obtained and studied in depth. Information like the publication year, aim, number of studies involved, focus criteria and major findings are extracted and shown in Table 1 of appendix. The critical appraisal process has become imperative in evidence-based healthcare research. It is a systematic process to check research evidence to judge its reliability (Burls, 2009). Quality assessment tool by the National Institute of Health (NIH) for systematic review and meta-analysis is used to check the quality of selected studies. As the last criteria of this tool is applicable only to meta-analysis, the remaining seven criteria are adopted to rate the quality of the selected systematic review. Each study can be rated as "good", "fair" or "poor" in term of quality. Rating "good" means study has the least risk of bias while "poor" means study has a significant risk of bias. The main purpose to go for quality appraisal during this study is an attempt to strengthen the reliability of the outcome. Result of quality appraisal is produced in the last column of Table 1. The overall quality of the selected studies is found to be satisfactory.

A study by Cherry (2014) is rated as a lower side of fair option as article selection diagram and summary of selected studies are missing in this paper.

## DISCUSSION

**EI in medical education:** In the medical education context, let's understand EI with two different perspectives. Firstly, EI as selection criteria in medical school applicants. Secondly, the role of EI in success during medical education. Five out of seven selected studies (Arora et al., 2010; Cherry et al., 2014; Cook et al., 2016; Neumann et al., 2011; and Smith et al., 2009) talks about these perspectives. Traditionally it is believed that success in any education is due to cognitive intelligence. Medical school admission committee uses cognitive measures like entrance test score as sole admission criteria which has demonstrated predictive validity and reliability but skill like communication, interpersonal skills and empathy cannot be undermined (Lievens, Coetsier, De Fruyt & De Maeseneer, 2002) Henceforth few researchers have tried to determine the role that emotional intelligence play in medical school admission decision. Carr (2009) has tried to establish a correlation between EI and selection test scores. No significant correlation was found between both. Brannick & colleagues (2009) concluded that emotional intelligence tests do not have an additional predictive measure of success beyond cognitive ability and personality. Ability measure like MSCEIT has better predictor power than trait measure like WLEIS but neither of them has predictive power beyond cognitive ability and personality.

Susan Humphrey-Murto, Leddy, Wood, Puddester & Moineau (2014) tried a slightly different study focusing to know whether emotional intelligence ability at the time of admission to medical education can predict future academic performance. Result of this study reveals that no significant correlation between EI scores and written examination score and number of failure during medical education. Lewis & Colleagues (2005) strongly felt that some EI measures have an inherent bias towards women hence cannot be used as a selection criterion. Hence inclusively result of all studies prove that there is no/weak role EI plays in medical admission context however more studies are essential to support this result. Now talking about the second perspective, ability model of emotional intelligence states that EI is an inborn set of abilities hence people can nurture it. Even a little improvement in this ability can be helpful in daily patient care. Lewis et al. (2005) have stated that EI can be learned by medical students and its inclusion in the medical curriculum will improve the outcome of the students. Cook et al. (2016) through their systematic review inferred that there is a weak positive relationship between EI and academic performance and success during medical education. Arora et al. (2010) have done an interesting review of EI studies with the context of competencies as a hallmark of medical education suggested by Accreditation Council for graduate medical education, USA. According to this council, practice-based learning and improvement, patient care and procedural skills, system based practice, medical knowledge, interpersonal and communication skills, and professionalism are essential for medical education. They have established a link between competencies like patient care, professionalism, interpersonal and communication skills with doctor's empathy and the doctor-patient relationship. Empathy is an integral part of emotional intelligence and will improve

patient trust and strengthen a patient-doctor relationship. Teamwork, communication, and interpersonal skills are essential for system based practice and high EI is linked with better team behavior and performance (McCallin and Bamford, 2007). Hence emotional intelligence is positively linked with these competencies. A systematic review by Neumann et al. (2011) suggests that a doctor's empathy influence the health of the patient through communication during treatment. However, that review concludes that there is a significant decrease in empathy of doctors during residency due to stress, reduced quality of life, depression, mistreatment by supervisor/ mentor, lack of social support, high workload, a short length of stay with the patient, unsuitable learning environment like bedside interaction. More studies are required to understand factor which causes empathy decline and how it can be overcome by emotional intelligence training during medical studies.

There have been enough attempts to establish a role of emotional intelligence in nursing education and all support the encompassment of it. According to Freshwater & Stickley (2004), emotions are art of nursing practice. Educating subject knowledge without understanding nature, skill and competencies related to emotion can result in unbalanced nursing practice. Hence it is imperative to understand and value emotion for nursing practice. Emotionally competent students can better handle educational stress during studies and occupational stress later in their professional lives (Monte-Berger & Augusto, 2007). Hence it can be concluded that EI has a direct or indirect role to play to enhance success during education. However more strong research is essential to support the role of EI in medical education. There is a dearth of knowledge which guides how EI can be incorporated in the curriculum.

**EI in medical practice:** Three out of seven selected studies (Akerjordet et al, 2010; Cherry et al., 2013; and Smith et al, 2009) focused on emotional intelligence in practice. Two studies (Akerjordet et al., 2010 and Smith et al., 2009) focused on nursing leadership. It is rightly said that caring is more than a cure. O'connar (2008) said that caring competency is fundamental in nursing leadership. Goleman (2005) mentioned that emotional intelligence quality of leader in a dynamic healthcare setting will foster quality patient care. Similar observation by Edgar et al. (2006) tells us that it is essential to have an emotionally strong leader in a complex healthcare setting. By utilizing emotional intelligence competencies, leaders can convey empathy to followers hence neutralizes their work-related stress and pressure also manages conflict within staff effectively (Faugier & Woolnough, 2002). Akerjordet et al. (2010) concluded that it is essential to have in-depth knowledge about EI and its scientific critic before incorporating it into nursing practice due to its unsubstantiated predictive validity and construct validity. Prominence to nature of emotion is given by them to incorporating EI in nursing practice. EI paradigm has given importance to evaluate emotions positively and way of expressing it in a socially acceptable way which is not desirable in the idiosyncratic environment. Negative emotions are equally important for leaders because it gives them a chance to act rationally and realistically. One study (Cherry et al., 2013) focused on the influence of doctors and medical student's emotional intelligence and attachment style on their patient-provider communication. Result of this systematic review is inconclusive due to heterogeneity in the tool to measure construct and different outcome measures.

However, the author has established a tentative link between EI and attachment style on patient-provider communication.

In past, few attempts have made to link EI with conflict handling style, patient care, doctor-patient relationship, stress and burnout, job satisfaction, communication, and interpersonal skills, caring and ethical behavior, and team building through cross-sectional studies. The overall result shows that emotional intelligence has a positive role to play in medical practice.

**Limitation of the study:** This study is limited by database used to search relevant literature, search method and search words used for it. There are chances that not all relevant studies are recorded in the selected database.

**Direction for further studies:** Emotional intelligence research in the medical context is growing but proof to aid the use of it is stingy. Longitudinal studies can be carried out to know the role of EI in medical school applicants. Studies which focus on what pedagogical changes are required to incorporate emotional intelligence in nursing and medical education can be done. It is found that majority of EI studies in a medical context focused on nurses and undergraduate students and residents hence more exploration is required targeting consultant doctors as a unit of analysis. Various systematic reviews can be carried out related to emotional intelligence and medicine as the most reliable source to guide medical practice. There are numerous instruments are used to measure emotional intelligence however psychometric property of only Trait Meta-Mood Scale is tested in the nursing context. Validity studies of different measures can be carried out in a medical context.

## CONCLUSION

Research supports the utility of emotional intelligence in success during medical and nursing education as well as a medical practice. Despite a lot of debate, scientific work on emotional intelligence can be carried out to expand and improve existing knowledge. In the medical context amalgamation of practice driven and science-driven approach will be fruitful to give evidence-based results. Careful consideration of various critics becomes imperative for future research within and outside medicine.

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**Table 1. Summary of selected studies**

Author	Study focus	Number of studies included	Major finding	Quality appraisal result
Cook et al.(2016)	Medical school admission and success during program matriculation	6	EI is correlated with some measures of success during education but no association with medical school admission	Good
Cherry et al.(2014)	Medical education	NR	Emotional intelligence may help to teach professionalism and communication skill	Fair (Low side)
Cherry et al. (2013)	Influence of EI and attachment style of doctor on patient provider communication	14	Tentative link between EI + attachment style on patient provider communication	Fair
Neumann et al.(2011)	Empathy decline and its reasons	18	Healthcare quality and professionalism of doctor will suffer the most due to empathy decline	Good
Akerjordet et al.(2010)	Nursing leadership	24	EI can be integrated in nursing education and practice with through knowledge of EI and its critics	Fair
Arora et al. (2010)	ACGME competencies	16	EI is correlated with many competencies recommended for medical curriculum	Good
Smith et al.(2009)	Nursing education and nursing leadership	39	EI is central to nursing practice and nursing education.	Fair

*Note.* NR= Explicit number of studies is not reported by authors.Detail is available from authors upon request. ACGME = Accreditation council for graduate medical education

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