


# Chapter 10

## A Study of Human Interaction Emotional Intelligence in Healthcare Applications

**Vanmathi C.**

*Vellore Institute of Technology, India*

**Mangayarkarasi R.**

 <https://orcid.org/0000-0003-3088-6001>

*Vellore Institute of Technology, India*

**Prabhavathy P.**

*Vellore Institute of Technology, India*

**Hemalatha S.**

*Vellore Institute of Technology, India*

**Sagar M.**

*Vellore Institute of Technology, India*

### ABSTRACT

*A human's words, facial expressions, gestures, tone of voice, and even keyboard force can all be used in conjunction with artificial intelligence technologies to perform emotion intelligence (EI) identification. The development of artificial emotional intelligence has made it possible for people and robots to interact in a manner that is more natural, similar to the way that humans engage with one another. The expansion of the internet of things and wearable technology has a positive impact on the development of emotion detection software in the healthcare sector. This system contributes to society by making use of many forms of technology. There is always going to be a trade-off between price and functionality. The development of software with emotional intelligence relies on the collection of extensive datasets and the development of reliable modelling techniques. This chapter uses case studies, computing, and AI-based research methods to analyze emotional intelligence systems and their effects on human-computer interaction in the healthcare sector.*

DOI: 10.4018/978-1-6684-5673-6.ch010

## INTRODUCTION

Examples of what might be included in the definition of emotional intelligence include the capacity to manage one's behavior, deal with challenging social situations and make decisions that lead to beneficial results. Emotional intelligence can also be measured by one's ability to make good decisions that lead to positive outcomes. There is a correlation between the amount of stress that a person feels in their line of work and the level of emotional intelligence that they possess as a professional. According to the explanation of the term "emotional intelligence" offered by the American psychologist Daniel Goleman (Goleman, 2011), the concept of emotional intelligence is comprised of five primary aspects that are essential to its development. Self-awareness, motivation, social skills, the capacity to self-regulate, and empathy are some of the components that make up emotional intelligence. A collection of emotional, social, and relational skills that leads the way to perceive, grasp, and express oneself; connect with others; manage interpersonal exchanges; deal with obstacles, and make effective and meaningful use of emotional knowledge. Figure 1 illustrates the most important aspects of emotional intelligence after they have been broken down into the parts from which they are composed. Numerous studies have been carried out, and the findings of these investigations indicate that high emotional intelligence is accountable for ninety per cent of top performers. People who experience a greater number and range of happy emotions perform at a higher level with fewer errors. These people also report feeling happier overall. This is because they have a more optimistic perspective on life. Compassion is a crucial component of the professional connection; resonance and rapport are expressions of caring, and individuals who are participating in the connection share optimism and positive feelings with one another. The benefits of having an EI intern increase in direct proportion to the level of difficulty of the task that is being performed. This is because having an EI intern minimizes the cost of treatment and legal fees. If the EI is higher, then there is less room for careless practice, which means that the diagnostic accuracy will be higher as a direct result of this. People who practice EI can feel less anger and other unpleasant emotions, which in turn leads to a rise in the effectiveness of teams and the productivity of groups. The use of EI leads to increases in cognitive health and welfare, as well as memory and performance, which are all boosted as a result of the application of EI.

Researchers are more conscious that emotions play a significant role in the design process as well. Researchers in human-computer interaction (HCI) and design are now looking at the distinctions of emotion and how it affects our behavior. As a relatively new area of study, this is heartening news, and there are numerous promising directions in which it might go from here. Emotional research in the field of HCI is inherently interdisciplinary. For example, researchers are interested in the perception and synthesis of emotional expressions on the face and body, as well as how emotions affect information processing and decision-making processes. HCI Emotional Intelligence in Healthcare is discussed in detail in this chapter. It finds and analyses the underlying causes of a wide range of problems.

This chapter gives insights on HCI Emotional Intelligence in healthcare. It identifies the various challenges and also analyzed the deeper level of the issues. The chapter starts with an introduction to emotional intelligence, the role of HCI in emotional intelligence followed by the impact of HCI EI in healthcare, technology impact and its influences on healthcare workers and patients. Finally discussed the future of EI in healthcare and followed by a conclusion.

13 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/a-study-of-human-interaction-emotional-intelligence-in-healthcare-applications/313349](http://www.igi-global.com/chapter/a-study-of-human-interaction-emotional-intelligence-in-healthcare-applications/313349)

## Related Content

---

### Machine Learning Approach in Human Resources Department

Ishraq Abdulmajeed, Ghalia Nassreddine, Amal A. El Aridand Joumana Younis (2023). *Handbook of Research on AI Methods and Applications in Computer Engineering* (pp. 271-294).

[www.irma-international.org/chapter/machine-learning-approach-in-human-resources-department/318069](http://www.irma-international.org/chapter/machine-learning-approach-in-human-resources-department/318069)

### The Ultimate Solution in Customer Engagement Using ChatGPT

Anshit Mukherjee, Gunjan Mukherjee, Arpitam Chatterjeeand Bipan Tudu (2024). *Leveraging ChatGPT and Artificial Intelligence for Effective Customer Engagement* (pp. 28-54).

[www.irma-international.org/chapter/the-ultimate-solution-in-customer-engagement-using-chatgpt/337709](http://www.irma-international.org/chapter/the-ultimate-solution-in-customer-engagement-using-chatgpt/337709)

### Topical Repute on Artificial Intelligence-Based Approaches in COVID-19 Supervision: Distinct Kingpin on Drug Re-Purposing Blueprint

Shamayita Basuand Jana Shafi (2022). *Principles and Methods of Explainable Artificial Intelligence in Healthcare* (pp. 180-210).

[www.irma-international.org/chapter/topical-repute-on-artificial-intelligence-based-approaches-in-covid-19-supervision/304181](http://www.irma-international.org/chapter/topical-repute-on-artificial-intelligence-based-approaches-in-covid-19-supervision/304181)

### Implementation of AI Techniques for Tuning of Controller Parameters in a Nonlinear System

Hemamalini B., Lakshmi P.and Navabharathi S. (2023). *AI Techniques for Renewable Source Integration and Battery Charging Methods in Electric Vehicle Applications* (pp. 243-260).

[www.irma-international.org/chapter/implementation-of-ai-techniques-for-tuning-of-controller-parameters-in-a-nonlinear-system/318638](http://www.irma-international.org/chapter/implementation-of-ai-techniques-for-tuning-of-controller-parameters-in-a-nonlinear-system/318638)

### Evaluation of an Apartment Selection Model by Integrating Fuzzy AHP and Fuzzy TOPSIS

Manh Hien Luc, Quang Vinh Nguyen, Quang Hung Doand Tran Van Trang (2022). *International Journal of Fuzzy System Applications* (pp. 1-22).

[www.irma-international.org/article/evaluation-of-an-apartment-selection-model-by-integrating-fuzzy-ahp-and-fuzzy-topsis/313964](http://www.irma-international.org/article/evaluation-of-an-apartment-selection-model-by-integrating-fuzzy-ahp-and-fuzzy-topsis/313964)