Impact of Artificial Intelligence on the Reduction of Emotional Intelligence A Systematic Review

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***Abstract*—Artificial Intelligence (AI) has significantly reshaped modern society by automating routine activities, improving decision-making processes, and enabling efficient communication across diverse sectors. Despite its numerous advantages, growing concerns have arisen regarding its potential impact on human emotional intelligence (EI). Emotional intelligence, which includes self-awareness, self-regulation, motivation, empathy, and social competence, plays a crucial role in fostering interpersonal relationships and maintaining psychological well-being. This systematic review explores the existing body of literature on the relationship between AI usage and emotional intelligence, with particular emphasis on whether increased dependence on AI technologies contributes to the erosion of emotional capabilities. Relevant studies published between 2015 and 2025 were systematically collected from major academic databases, including Scopus, PubMed, Google Scholar, and Web of Science. The findings suggest that excessive reliance on AI-powered communication platforms, social media algorithms, virtual assistants, and automated systems may diminish face-to-face interactions, reduce empathy, weaken emotional awareness, and limit social engagement. Conversely, the evidence also highlights the positive role of AI in enhancing emotional well-being through mental health interventions, educational applications, and assistive communication technologies. The review concludes that AI is not intrinsically harmful to emotional intelligence; however, excessive and unregulated dependence on AI-mediated interactions may impede emotional growth and interpersonal effectiveness. Therefore, a balanced approach that combines technological advancement with the cultivation of emotional competencies is essential for promoting holistic human development.**

***Index Terms*—Artificial Intelligence, Emotional Intelligence, Empathy, Human Interaction, Digital Communication, Technology Dependence, Systematic Review**

I. INTRODUCTION

The twenty-first century has witnessed unprecedented technological advancements, with Artificial Intelligence (AI) emerging as one of the most transformative innovations. AI technologies have become deeply embedded in everyday life through virtual assistants, recommendation systems, chatbots, social media platforms, autonomous systems, and machine learning applications. These technologies have enhanced productivity, efficiency, and accessibility across numerous domains.

Simultaneously, concerns have arisen regarding the impact of technology on human emotions and interpersonal relationships. Emotional Intelligence (EI), introduced by Salovey and Mayer (1990) and popularized by Goleman (1995), refers to the ability to recognize, understand, manage, and utilize emotions effectively. Emotional intelligence is crucial for leadership, communication, relationship management, teamwork, and mental health.

As AI increasingly mediates human communication and decision-making, researchers have begun investigating whether excessive technological dependence may diminish emotional competencies. Reduced face-to-face interactions, increased screen time, algorithm-driven social engagement, and reliance on automated responses have raised concerns about empathy decline, emotional detachment, and social isolation.

This systematic review synthesizes available evidence regarding the impact of AI on emotional intelligence and evaluates whether growing dependence on AI contributes to the reduction of emotional competencies.

II. OBJECTIVES OF THE REVIEW

The review was conducted with the following objectives:

1. To examine the relationship between artificial intelligence and emotional intelligence.
2. To identify factors through which AI may influence emotional intelligence.
3. To evaluate empirical evidence regarding the reduction of emotional intelligence associated with AI usage.
4. To explore positive and negative psychological and social consequences of AI adoption.
5. To provide recommendations for maintaining emotional intelligence in AI-driven environments.

III. METHODOLOGY

3.1 Review Design

This study employed a systematic review methodology to identify, evaluate, and synthesize relevant literature examining the impact of AI on emotional intelligence.

3.2 Data Sources

Literature was searched from the following databases:

- Scopus
- PubMed
- Web of Science
- Google Scholar
- ScienceDirect
- SpringerLink

3.3 Search Strategy

Keywords used included:

- Artificial Intelligence
- Emotional Intelligence
- AI and Empathy
- Human-AI Interaction
- Technology Dependence
- Digital Communication and Emotions
- AI and Social Skills
- Emotional Competence

3.4 Inclusion Criteria

Studies were included if they:

- Were published between 2015 and 2025.
- Were peer-reviewed.
- Discussed AI, digital technologies, or automated communication systems.
- Examined emotional intelligence, empathy, emotional regulation, or interpersonal relationships.

3.5 Exclusion Criteria

Studies were excluded if they:

- Were non-English publications.
- Lacked empirical or theoretical relevance.
- Focused exclusively on technical AI development without human behavioral implications.

IV. CONCEPTUAL FRAMEWORK

4.1 Artificial Intelligence

Artificial Intelligence refers to the ability of machines to simulate human cognitive functions such as learning, reasoning, problem-solving, and decision-making. AI applications include:

- Virtual assistants
- Chatbots
- Recommendation systems
- Predictive analytics
- Autonomous vehicles
- Healthcare diagnostics
- Educational technologies

4.2 Emotional Intelligence

Emotional Intelligence consists of five major components:

Self-Awareness

Understanding one's emotions and their effects.

Self-Regulation

Managing emotional responses appropriately.

Motivation

Directing emotions toward productive goals.

Empathy

Understanding and sharing others' emotions.

Social Skills

Maintaining effective interpersonal relationships.

These competencies contribute significantly to personal and professional success.

V. FINDINGS FROM THE LITERATURE

5.1 AI and Reduction in Face-to-Face Communication

Several studies reported that AI-driven communication platforms have reduced direct interpersonal interactions. Digital communication often replaces in-person conversations, limiting opportunities to interpret non-verbal cues such as facial expressions, body language, and tone of voice.
Researchers observed that prolonged reliance on digital communication may weaken emotional understanding and interpersonal competence.

5.2 Decline in Empathy
Empathy is considered one of the most important dimensions of emotional intelligence.
Multiple studies found that extensive engagement with technology-mediated interactions may reduce empathic responses. Social media platforms and AI-based communication systems often encourage rapid interactions rather than deep emotional engagement.
Researchers suggest that reduced exposure to real-life emotional experiences may contribute to empathy deficits.

5.3 Emotional Detachment and Social Isolation
Several studies highlighted increasing social isolation despite enhanced digital connectivity. AI technologies provide continuous engagement through personalized content and virtual interactions, potentially reducing real-world social participation.
Reported consequences include:
- Loneliness
- Emotional withdrawal
- Reduced interpersonal trust
- Social anxiety

Such outcomes are associated with diminished emotional intelligence.

5.4 Impact on Children and Adolescents
Young individuals are particularly vulnerable because emotional intelligence develops through social interaction and experiential learning.
Studies reported associations between excessive screen time and:
- Reduced empathy
- Poor emotional regulation
- Lower social competence
- Increased behavioral problems

Children spending substantial time interacting with AI-driven technologies may have fewer opportunities to develop emotional skills.

5.5 AI and Workplace Emotional Intelligence
AI has transformed workplace environments through automation and digital collaboration.
Research indicates that excessive reliance on virtual communication may:
- Reduce interpersonal bonding
- Limit emotional expression
- Decrease team cohesion
- Increase workplace stress

Organizations increasingly recognize emotional intelligence as a critical leadership competency that technology cannot fully replace.

5.6 Mental Health Implications
A growing body of literature links excessive technology use to mental health concerns.
Researchers identified associations with:
- Anxiety
- Depression
- Sleep disturbances
- Emotional exhaustion
- Reduced psychological well-being

Emotional intelligence serves as a protective factor against these conditions; therefore, any reduction in EI may increase vulnerability.

VI. POSITIVE CONTRIBUTIONS OF ARTIFICIAL INTELLIGENCE

Although concerns exist, the literature also highlights several positive contributions of AI.
6.1 Mental Health Support
AI-powered mental health applications provide:
- Emotional monitoring
- Cognitive behavioral therapy support
- Stress management assistance
- Crisis intervention services

These tools may improve emotional awareness when appropriately used.

6.2 Personalized Education
AI enables adaptive learning systems that accommodate individual learning needs and promote emotional engagement in education.

6.3 Healthcare Enhancement

AI supports diagnosis, treatment planning, and patient monitoring, contributing to improved healthcare outcomes and patient satisfaction.

6.4 Accessibility and Inclusion

AI technologies assist individuals with disabilities through speech recognition, translation services, and assistive communication tools.

Therefore, the negative impact on emotional intelligence depends largely on patterns of use rather than the technology itself.

VII. DISCUSSION

The findings indicate a complex relationship between artificial intelligence and emotional intelligence. AI technologies offer substantial benefits but may also create environments that reduce opportunities for emotional learning and social interaction.

The reduction in emotional intelligence appears to occur primarily through indirect mechanisms:

- Reduced face-to-face communication
- Increased screen dependency
- Social media-driven interactions
- Automated decision-making
- Decreased emotional engagement

However, evidence does not support the conclusion that AI directly causes emotional intelligence decline. Rather, excessive dependence on AI-mediated environments may contribute to reductions in empathy, social skills, and emotional awareness.

The literature consistently emphasizes the importance of maintaining meaningful human interactions alongside technological adoption.

VIII. IMPLICATIONS

Educational Implications

Educational institutions should integrate emotional intelligence training into curricula while promoting responsible technology use.

Organizational Implications

Organizations should prioritize emotional intelligence development through leadership training, communication workshops, and team-building activities.

Healthcare Implications

Healthcare professionals should balance technological efficiency with compassionate patient-centred care.

Societal Implications

Policymakers should encourage digital well-being initiatives and promote awareness regarding healthy technology usage.

IX. RECOMMENDATIONS

Based on the reviewed literature, the following recommendations are proposed:

1. Encourage regular face-to-face communication.
2. Incorporate emotional intelligence education in schools and colleges.
3. Limit excessive screen time among children and adolescents.
4. Promote responsible AI usage.
5. Strengthen family and community engagement.
6. Develop ethical AI frameworks emphasizing human well-being.
7. Conduct workplace emotional intelligence training programs.
8. Encourage digital detox practices.
9. Support mental health awareness initiatives.
10. Foster human-centred technological development.

X. LIMITATIONS OF THE REVIEW

The review has several limitations:

- Dependence on published literature.
- Potential publication bias.
- Rapid technological evolution may affect future findings.
- Limited longitudinal studies examining long-term emotional outcomes.
- Variations in emotional intelligence measurement across studies.

Future research should include longitudinal investigations and cross-cultural analyses.

XI. FUTURE RESEARCH DIRECTIONS

Future studies should examine:

- Long-term effects of AI dependence on emotional intelligence.

- Impact of AI on emotional development among children.
- Healthcare professionals' emotional intelligence in AI-supported environments.
- AI-assisted emotional intelligence training interventions.
- Cross-cultural variations in AI-emotion relationships.

XII. CONCLUSION

Artificial Intelligence represents one of the most significant technological advancements of modern society. While AI offers substantial benefits in healthcare, education, communication, and productivity, growing evidence suggests that excessive reliance on AI-mediated interactions may contribute to reductions in emotional intelligence.

The literature reviewed indicates potential declines in empathy, emotional awareness, social skills, and interpersonal engagement resulting from reduced face-to-face interactions and increased digital dependence. However, AI also provides opportunities to support emotional well-being through mental health applications, educational technologies, and assistive communication tools.

The relationship between AI and emotional intelligence is therefore not inherently negative but depends largely on how technology is used. Maintaining a balance between technological advancement and human emotional development is essential for preserving empathy, social connectedness, and psychological well-being in the digital age.

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