

EMOTIONAL INTELLIGENCE IN SPORT-RELATED CONTEXTS: REVIEW OF LITERATURE

Dr. Taoufik Khotbi^{1*}, Prof. Hicham Brir²¹Faculty of Letters and Human Sciences, University Mohammed V Rabat, Morocco; ²Faculty of Letters and Human Sciences, Ibn Tofail University, Morocco**Abstract**

The current paper presents a review of the literature on Emotional Intelligence (EI) and its models. The aim is to review three renowned models commonly used in the field of EI, namely the Four-branch model by Mayer and Salovey (1997), Goleman's Emotional Competences model (1998), and Bar-On's Emotional and Social Intelligence model (2006). This paper also includes implications of EI models for sport-related contexts. This review of the literature adheres to a holistic approach of sports training, and performance enhancement where EI is deemed necessary for mental resilience, better decision-making and stress management. In this endeavour, similarities between the three models are highlighted, and their implications in the field of sports is explored and discussed.

Keywords: Emotional intelligence. EI models. Sports context. Stress management. Decision-making. Mental resilience

Introduction

Researchers, particularly in the field of sports psychology, have devoted considerable attention to the topic of Emotional Intelligence (EI) and its implication in sport related activities to gain insights into the psychological dynamics of sports practitioners' performance and achievements.

Understanding the interplay between emotions, feelings and the cognitive processes of sports practitioners at the professional level is deemed necessary to uncover the profound impact EI has on athletes' decision-making, resilience and success. Valuable insights can be drawn from athletes' expressions of emotions and feeling upon their accomplishments or failure. The striking example of Hicham El Guerrouj, the Moroccan world-double-Olympic-champion, is significant to understand the impact of EI on performance. In a captivating interview published on the official page of the World Olympic Committee in 2019, El Guerrouj said "I felt incredibly comfortable...all those images from my sports life were in front of me...my failure in Atlanta and my loss in Sydney [emphasis added]"(7:04-7:14). This emotional narrative is a compelling statement to the role of EI in high pressure situations. In this context, Wilbur et al., (1987) argue that understanding how emotions and feelings impact athletes' practices in high-level-stress contexts, such as the Olympic Games, can improve the performance of sports practitioners and productivity.

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*Corresponding Author: Dr. Taoufik Khotbi, Faculty of Letters and Human Sciences, University Mohammed V Rabat, Morocco

Correo-e: taoufik_khotbi@um5.ac.ma

EI, at its core, refers to the ability to perceive, understand and effectively manage emotions, both in oneself and others (Mayer & Caruso, 2002, p. 1). On the one hand, within a context of competitiveness and high levels of stress, as in sports events, Goleman (1998) claims that EI has multi-dimensional components related to self-awareness, self-regulation, empathy, and social skills. As such, when athletes become adept at recognizing their emotions, thereby they could respond strategically in competitive environments. On the other hand, Golman (1998) further explains that EI cultivates a robust capacity for self-regulation in intense pressure, manage stress and anxiety, channel emotions into positive energy and enhance resilience skills.

The objective of this paper is to provide a comprehensive synopsis of the existing literature on EI by tracing its historical evolution, exploring its renowned models and evaluation tools. This process is conducted through a comparative analysis of antecedent works on EI in psychology. Additionally, the contrast of EI models serves to draw similarities and differences between those prioritizing intellectual ability and those integrating personality attributes. Eventually, the paper seeks to draw linkage between EI and sports psychology with an emphasis on its implications on athletes' performance.

A historical overview of the concept of EI

Is "emotional intelligence" a paradoxical term? Traditional Western thoughts approached the term as two divergent constituent; 'emotions' as synonymous to feelings and 'intelligence' as a pure cerebral activity (Duff, 1961). Such divide is historically exemplified by Aristotle's ancient suggestion that in order to reach and grasp pure thinking, one has to silence the sound of emotions (Elster, 2003). However, contemporary research shifted from juxtaposing the two concepts to studying the intricate interplay between 'emotions' and 'intelligence.' This section presents the interplay between the two concepts to better understand the concept of EI.

Emotions

Exploring emotions in human behaviour has captivated scholars throughout history from ancient time to modern days. Scholars and figures like Hipócrates, Galeno, and Darwin in 1872, to contemporary researchers such as Cassiopo, Larsen, Smith, and Bernston in 2004 have embarked in a long journey to underscore the challenges of defining emotions. Ultimately, the quest for a clear framework has manifested through seminars and discussions, echoing the views of Reymert (1928) and Arnold (1970), who noted the absence of definitive criteria. Existing definitions spotlight specific facets, fostering an

array of interpretations.

In an attempt to define the term 'emotions', numerous scholars introduced insightful perspectives based on different mechanism. Bentley's (1928) perspective suggests that emotions trigger physiological responses such as an increase of heart rate, increased sweating, and tensed muscle thereby alerting the body to face stressors. Bentley's perspective aligns with the physicality of emotions in the context of challenging situations.

On the other hand, Mandler (1975) delved into the cognitive dimensions of emotions. To explain Mandler perspective, he suggests that the way we react to dogs' barking depends on how we thinking about the situation. In other words, emotions of joy might spark among individuals when their pet dog barks whereas the same individual might have emotions of fear when a stray dog at them. Mandler (1975) states emotions arise from the interplay between psychological arousal and cognitive processes. This implies that how we interpret and categorize a situation cognitively influences the emotional response it triggers.

Tomkins (1979) and Plutchik (1980) approached emotions from an adaptive angle. In this sense, emotions are related to our ancestors and their way to react to different situations. For Tomkins and Plutchik emotions are evolved responses that facilitate survival and adaptation. This means that emotions, such as fear or joy, are not arbitrary reactions but rather ingrained patterns of bodily interaction that helped navigate environments effectively.

Bower's (1981) stated that emotions are linked to physiological and motor behaviour. This implies that emotions are stored in our memory and provide emotional experiences that are everlasting imprints. In such, individuals' future responses and behaviour, such as trauma, can shape one's reactions in similar situations later in life.

Arnold (1970) and Frijda (1986) introduced a socio-cognitive perspective, which emphasizes extra social and intra cognitive aspects of emotions. This perspective entails that emotions do not stem from individual experiences only but other external factors influence how we feel. In other words, when an event creates the emotion of joy among a person, other external factors such as cultural norms and group beliefs play a vital role.

Intelligence

Similar to the process of defining the concept of 'emotions', 'intelligence' unveils diverse viewpoints and complexities. Aristotle, among others, contemplated

human cognitive capacities, albeit without providing a systematic approach to explain how they do it. Not until the 17th century that philosophers like John Locke and Rene Descartes laid the foundations for understanding human cognition (Locke, 1956). During the 18th and early 19th century, thinkers like Francis Galton delved into empirical research to measure human mental abilities (Galon, 1875). In such, a shift from early philosophical contemplations to systematic assessment emerged. Later, scholars engaged in debates about the structures of 'intelligence.' Spearman's general intelligence (G) suggested a unitary factor amongst humans that controls their cognitive abilities, whereas Thurstone suggested humans' possession of multiple distinct abilities (McNemar, 1964). By the mid-20th century, Jean Piaget seminal work illuminated the development facets of intelligence, shedding light on how cognitive capacities evolve over life stages. In the meantime, Howard Gardner's 'multiple intelligence' theory broadened the scope, acknowledging diverse cognitive skills beyond the previous conventional metrics (Gardner, 2021).

This interaction of thoughts over the concept of 'intelligence', which spanned over centuries, resulted in the notion of intelligence versus models of intelligence. The latter are generally more restrictive organizations of the field that serve to describe interrelations among mental abilities. For instance, Social Intelligence (SI) is initially defined as "the ability to understand and manage people" (Thorndik & Stein, 1937, p.275.) In this regard, these abilities might be directed inward to develop the skill of understanding and managing oneself. Thorndike (1920) defines SI as "the ability to understand men and women, boys and girls to act wisely in human relations" (pp. 227-235). SI was also defined in a more manipulative sense by Weinstein (1969) who noted that "it boils down to the ability to manipulate the responses of others" (p.755).

In the context of presenting different models of intelligence, Goleman (1995) developed a model of multiple intelligences that includes a taxonomy in which an attempt to combine the two concepts (intelligence/emotion) as "interpersonal intelligence" (II). In short, this type of intelligence can be defined as the ability to perceive one's own emotions and understand the feelings of others (Roberts et al., 2001).

In 1990, in their article, Salovey and Mayer (1990) proposed a term that further embodies some of the principles raised by these theorists that gave rise to a new movement of research. The concept of EI has been referred to as a continuation of a trend started by other psychologists such as Wechsler (1943) and Sternberg (1985). After these researchers recognized the essential value of the non-cognitive components: affective, interpersonal, emotional and social, as predictors of our coping skills and success in life (Cabello, Ruiz Aranda y Fernández-Berrocal, 2010). With the publication of Goleman (1995) for his book Emotional Intelligence, interest in this concept increased. The main idea of this book lies in the fact that we need a new vision in the study of human intelligence that goes beyond the intellectual and cognitive aspects. So, Goleman (1995) emphasizes the presence of other important skills to achieve psychological and social comfort, and self-development as well as social.

Emotional intelligence models

EI models play a fundamental role in understanding how human behaviour and interactions are influenced by emotions. These models not only provided theoretical insights, which have been used in different contexts, but also facilitated the measurement of EI among individuals through the development of numerous assessment tools. EI models, generally, can be categorized into two categories: ability models and mixed models. The former define EI as a set of mental abilities (Mayer & Salovey, 1990); whereas, the latter uses a wider definition of EI where mental abilities are mixed with personality constructs and competences (Mayer & Salovey, 1997). The following subsection delves into the ability model of EI by Mayer and Salovey (1997), known as the Four-branch model, Goleman's (1998) Emotional Competences model and Bar-On's Emotional and Social Intelligence Model as the most popular examples of EI models.

Mayer and salovey' four-branch model

Mayer and Salovey designed the four-branch (1997) model to help in understanding how individuals react in problem-solving situations using emotional reasoning. Be it a model of abilities, it consists of four branches: (1) perceiving emotions, (2) reasoning with emotions, (3) understanding emotions, and (4) controlling emotions (Mayer & Salovey, 1997). According to Mayer and Salovey (1997), the first branch is the most basic and it requires individuals to recognize how they feel by observing facial expressions and then respond to them. Mayer and Salovey (1997) highlight that at this first basic phase, an emotionally intelligent individual is mandated to discriminate between honest and manipulative expressions in themselves, others persons and objects. The second branch entails using emotions to think effectively and find solutions since "emotions serve as alerting system" (p.12). They also added the ability of 'mood swings' at the top layer in the second branch because it affects thoughts and performance. In this regard, Davis (2009) asserts that positive mood can facilitate creativity. The third branch refers to knowing and identifying our

feelings and why we have them at different circumstances. For Mayer and Salovey (1997), an emotionally intelligent person is someone with the ability to "reason about the progression of feelings in interpersonal relationships" (p.14). The last branch entails that an emotionally intelligent person ought to manage her or his emotions by meta-evaluating and meta-regulating their mood. At this phase, the person needs to accept others' feelings, engage or disengage and reflect upon the situation in which that feeling occurs (Table 1).

Goleman's emotional competences model

Goleman's Emotional Competences (EC) (1998) is a mixed model where personal competences are joined with social competences to analyse the behaviour of individuals. His work is primarily inspired by his bestselling book *Emotional Intelligence: Why it can matter more than IQ* (Goleman, 1995) in which Goleman discusses the importance of harmonizing emotions and thoughts to reach a better performance. In that book, Goleman states that having emotionally intelligent individuals is more important than having persons with high IQ scores. With his extensive work on leadership and the necessary competencies that leaders need, Goleman published another book entitled *Working with Emotional Intelligence* (1998) through which he presented the EC model comprising 25, which later will be shortened to 18, competences divided into 4 clusters. According to Goleman's EC model (1998), "EI is observed when a person demonstrates the competences that constitute self-awareness, self-management, social awareness, and social skills at appropriate times and ways in sufficient frequency to be effective in the situation." (Boyatzis et al., 2000, p. 344). In this respect, the EC model accentuates personal competences, namely self-awareness and self-regulation, to analyse individuals' capacity for understanding themselves. Meanwhile, this model underscores social awareness and social skills, as social competences, which can help in engaging with others within diverse social situations (Table 2).

Bar-on's emotional and social intelligence model

Reuven Bar-On developed a cross-sectional model where emotional and social intelligence competences determine how individuals understand and express themselves effectively. As a matter of fact, Bar-On first started by developing a test called Emotional Quotient Inventory (EQ-i) in 1997 which later helped him construct the Emotional and Social Intelligence (ESI) model (2000). Worth to mention that this model has been subject to modifications until a recent version was developed in 2006 (Bar-On, 2000). According to Bar-On, for behaviour to be qualified as intelligent both emotionally and socially, it has to demonstrate cross-sections of interrelated emotional and social competencies, skills to cope with our daily demands (Bar-On, 2006, p. 14). His model presents the following ten concepts as key components of ESI behaviour: self-regard, interpersonal relationship, impulse control, problem-solving, emotional self-awareness, flexibility, reality testing, stress tolerance, assertiveness and empathy (Bar-On, 2006, 372) (Table 3).

Implications of EI models in sport related activities

The potential efficacy of EI dimensions in the field of sport psychology requires a thorough examination of antecedent research within this realm. Despite the surge of interest in EI within the field of sport psychology, a dearth of systematic research adopting EI models in sport related activities persists. Rather, current studies have employed conventional research methodologies, instruments and designs for expounding upon the construct. Conte (2005) indicates that for

Table 1: Modified four-branch ability model (1997) of emotional intelligence.

Branches	Abilities
↑ Controlling Emotions	• Manage emotions
	• Judge how reasonable emotions are
	• Engage or disengage
	• Have the ability to be open towards feelings
Understanding emotions	• Transition between emotions
	• Deal with complex and contradictory feelings
	• Identify relationships between feelings
Reasoning with emotions	• Label emotions
	• Deploy mood swings for creativity
	• Accommodate to mood swings
	• Have different feelings
Perceiving emotions	• Use emotions to think effectively
	• Discriminate between honest and manipulated emotions
	• Express emotions
	• Perceive emotion in one's environment
	• Perceive emotions in other people
	• Identify emotions in oneself

Table 2: Goleman's EC model adapted from wolff (2005).

	Clusters	Competencies
Personal competences	Self-awareness	emotional self-awareness accurate self-assessment self-confidence
	Self-management	emotional self-control transparency achievement initiative optimism
Social competences	Social awareness	empathy organizational awareness service orientation
	Social skills	developing others inspirational leadership influence change catalyst conflict management teamwork & collaboration

Table 3: Bar-On ESI model components and concepts (2006).

Components	Concepts
Intrapersonal	<ul style="list-style-type: none"> Self-knowing, self-regard, assertiveness, self-actualization and self-appraisal (independence)
Interpersonal	<ul style="list-style-type: none"> Empathy, social responsibility and interpersonal relationships
Emotional management	<ul style="list-style-type: none"> Stress tolerance and impulse control
Mood	<ul style="list-style-type: none"> Optimism and happiness
Adaptability	<ul style="list-style-type: none"> Reality-testing, flexibility and problem solving

research to be advanced, the foundational materials needs to be consistent. In other words, when the theoretical paradigm, construct, concepts and assessments tools among other research parameters are inconsistent, then there is high probability to reach unreliable results. On the other hand, the field of sports is not characterized by athletes' physical performance and competences; rather, it requires a dynamic interplay of emotions. Therefore, athletes, coaches, team managers among other stakeholders ought to have high levels of EI. The ability to perceive, manage, and utilize emotions strategically can profoundly impact an athlete's performance and overall well-being. The following section aims to highlight the implications of the aforementioned EI models for athletes engaged in sport-related activities.

Unveiling the implications of EI in sports performance

The Four-branch model (1997) holds valuable implications for athletes. According to the first branch of perceiving emotions in self and others, athletes are able to understand teammates' feelings during high-stress competitions. Also, they can contribute to constructing team unity and foster harmony towards one single goal as a team. Palmer and Stough (2001) admit that "understanding the emotions of others identifies the emotional overtones of the environment" (p. 5). Thus, athletes who report high competency level of perceiving their emotions tend to have a better appraisal of their teammates' or opponents' emotional responses. In such, the ability trait of Mayer and Salovey (1997) progressively suggests that athletes can have a good understanding of why the others, in competitive events, respond in a particular manner. Anshel (1990) extends the dimensions of the four-branch model to individual sports practitioners. In tennis, for instance, the player's ability and skills in identifying 'negative' emotions, such as doubt or anxiety in their opponent, can be leveraged to gain an advantage and allow exploiting the opponent's vulnerabilities.

Athletes with the skill and ability to harmonize emotions and thoughts can reach better performance. As indicated in Goleman's model (1998), emotionally intelligent individuals have a high level of 'self-regulation'. In this respect, the control of emotions and adaptability to the environment has a direct effect on athletes' mindset. The example of penalty kicks in a football match requires high arousal and self-regulation of one's emotions, or feelings. In the meantime, having 'social-skills' such as accepting comments of spectators, coaches or sports analysts –sometimes outside of the sport field – determine athletes' high or low level of EI. The implication for Goleman's EC model in sport psychology entails preparing athletes for optimum mental and physical qualities as flexibility, strength and emotional energy. Hanin (cited in Jones et al., 2005) finds that optimal or dysfunctional emotions can exert either favourable or unfavourable echoes on motivation towards or away from a sport-related objective depending on the person and the situation.

Implications of Bar-On's ESI model (2006) for sport-related activities suggest strong correlations between the cultivation of emotions, intelligence and sport. Intrapersonal components, such as 'impulse control' and 'self-regard', from the ESI model aid sport practitioners to maintain focus and avoid distraction. Marathon runners, for instance, use develop controlled breathing techniques to manage their energy both at the physical and mental levels. Additionally, strong social skills, as outlined in the ESI model, empower athletes to communicate at the interpersonal level. Based on this model, Cowden (2016) carried out a study to explore the relationship between mental toughness, EI, and coping effectiveness among high-performing adolescent male athletes revealing that competencies such as 'self-assuredness', 'empathy' and 'teamwork' serve as catalysts for better accomplishments. Furthermore, 'empathy' is highlighted in Bar-On's (2006) model as it fosters strong team dynamics and altruistic leadership.

Conclusion

Three renowned models of EI have been reviewed and presented in this article with the purpose to demonstrate their implications for sport psychology. It is apparent that the ability model by Mayer and Salovey (1997) along with the mixed models by Goleman (1998) and Bar-On (2006) of EI measure different construct. Additionally, the presented models seem to present individuals' cognitive abilities and personality traits from different perspectives. Worth to mention that each model relies on broad definitions of EI; the ability model attempts to present a narrower definition whereas the mixed models incorporate wider concepts in their construct of EI. With respect to EI in sport-related activities, evidence from the aforementioned EI models indicates: (1) individuals or teams with the capacity to manage their emotions in a rational manner are very likely to be disciplined, less vulnerable, and perform well. (2) The skills stated in the ability model of EI can be learned and enhanced. (3) EI is a sports performance predictor; therefore, practitioners and other sport stakeholders are mandated to have deep knowledge of the importance of EI. (4) Despite the fact that this review of the literature did not tackle EI instrument tools and tests, it is recommended to provide valid and easily handled EI tests.

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