



ISSN Print: 2664-7281
ISSN Online: 2664-729X
Impact Factor: RJIF 8
IJSEPE 2024; 6(2): 323-326
www.sportsjournals.net
Received: 11-07-2024
Accepted: 17-08-2024

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International Journal of Sports, Exercise and Physical Education

Enhancing athletic excellence: The vital role of sports intelligence in performance

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DOI: <https://doi.org/10.33545/26647281.2024.v6.i2e.142>

Abstract

Athletic intelligence is a crucial factor in optimizing athletic performance in today's competitive sports landscape. It encompasses not only physical conditioning but also mental resilience, decision-making, strategic analysis, and predictive insights, allowing athletes and teams to achieve unprecedented levels of excellence. Important elements of athletic intelligence include cognitive skills, such as game IQ, spatial awareness, emotional intelligence, interpersonal skills, and neurocognitive abilities. Visualization methods can improve performance by controlling anxiety, boosting muscle activation, increasing attentional concentration, lowering stress, and developing a more optimistic mind-set. Sports psychology plays a significant role in improving athletic intelligence, with tools like neuro-Tracker and neurofeedback enhancing concentration and judgment.

New developments in performance enhancement and athletic intelligence include neuro-sports, profiling of genomic information, holistic methods of training, and AI-powered personalization. Intelligence plays a significant role in athletic endeavors, as it stimulates an athlete's activity and establishes the framework for applying the main conceptual rules. In sports, intelligence serves specialized purposes, including social behavior, interpersonal interactions, problem-solving abilities, and the development of cognitive capabilities.

Sports intelligence has a revolutionary impact on contemporary athletics, enabling athletes and teams to reach previously unthinkable performance levels by fusing technology, data, and psychological insights. This approach promotes a comprehensive approach to athletic development, producing players who are more resilient, balanced, and capable.

Keywords: Athletic intelligence, cognitive skills, emotional intelligence

Introduction

Sports intelligence, an advanced approach that utilizes data analytics, psychology, and technology, has emerged as a crucial factor in optimizing athletic performance in today's competitive sports landscape, where athletes and teams are always looking for ways to gain an advantage. This concept encompasses not only physical conditioning but also mental resilience, decision-making, strategic analysis, and predictive insights, allowing athletes and teams to achieve unprecedented levels of excellence.

The term "athletic intelligence" describes an athlete's capacity to use their physical, mental, and emotional abilities to make quick, wise decisions throughout practice and competition.

Nowadays, it is believed that motor skills are a significant complement to IQ. Sports, physical prowess, and motor performance-all components of human behavior-are governed by the inner, or what is known as the intellectual, world of the human mind. It has now been acknowledged that one of the pillars of the theoretical framework of educational philosophy is the idea that movement is one of the foundations for intelligent behaviour (Kamlesh, 1988) [4]. Consequently, Mario Seigle and Howard Gardner (1983) popularise a little-known intelligence known as "athletic intelligence" (Kamlesh, 2009) [5].

According to Badr and Radwan (2010) [1], athletic intelligence is the "individual ability to use his body in an ingenious way and deal with the competitive situation through large and accurate movements of the body; helps in performing in a graceful and a coordinating way that achieves harmony between body and mind."

Singer and Janelle (1999) [7] and Papanikolaou (2000) [8] separated the idea into two categories: individual sports intelligence and team sports intelligence.

Team sports intelligence, according to Papanikolaou (2000) [7], is a more social component in which the athlete must consider tactics, strategies, team goals, and the style of play of opponents. Being dynamic in interactions with both opponents and teammates is crucial for this form of intelligence. According to Eriksson (2007) [2], individual sports intelligence emphasises the significance of comprehending the entire sport's style as well as the capacity to know the sport's physical, technical, tactical, and psychological aspects through experience.

There are notable differences in athletic intelligence between players with close skills and those with open skills, indicating that athletic intelligence is sport-specific.

Sports-specific athletic intelligence is demonstrated by the notable differences in athletic intelligence between the chosen team and individual games (Kaur, H & Sharma, L., 2000) [6].

Sports intelligence is the capacity to maximise an athlete's performance by the application of mental, physical, and strategic skills. It can be cultivated through sports psychology sessions, contests, and training. There are seven different forms of intelligence that are linked to sports intelligence.

Physical Intelligence is the ability to generate action effectively is referred to as physical intelligence. It is predicated on movement coordination and a set of physical performance standards, including abilities such as motor skills, agility, speed, flexibility, power, endurance, responsiveness, etc.

Technical Intelligence

Athletes with technical intelligence are adept at performing movements unique to their discipline. This calls for knowledge of movement biomechanics. Technical intelligence is necessary for advancement, injury prevention, and effort conservation.

Tactical intelligence

Tactically intelligent athletes are able to create a successful strategy to accomplish a particular objective. Depending on the opponent's performance, the current result, their physical state, etc., this plan may be modified.

Strategic Intelligence

The capacity to plan tactics to accomplish a medium- or long-term objective is referred to as strategic intelligence. It is frequently created by coaches and sports leaders, specifically:

Investing in young people to guarantee the senior team's performance and succession; organising courses for physical preparation.

Emotional Intelligence

Managing emotions and refocusing them to enhance athletic performance is the essence of emotional intelligence.

Individual aspect

An athlete who possesses emotional intelligence cultivates the mental attributes and values necessary to accomplish his objectives and get past whatever challenges he may face:

Drive, self-assurance, perseverance, patience, concentration, focus, ambition, stress reduction, emotional regulation, etc.

The physical aspect

An athlete with emotional intelligence is able to:

Avoid being overly fixated on athletics and instead have a healthy lifestyle that includes a balanced diet and adequate sleep.

The social aspect

Athletes who possess high emotional intelligence build positive bonds with their coaches, teammates, medical personnel, and other people. This is demonstrated by having a positive outlook on other people, being able to listen to them, and building strong interpersonal bonds. This is demonstrated by having a positive outlook on other people, being able to listen to them, and building strong interpersonal bonds.

The technical aspect

Understanding the opponent's actions, predicting his response, and using this knowledge are all much easier with emotional intelligence.

The collective intelligence

The ability of a group to successfully collaborate in order to accomplish a common objective is referred to as collective intelligence. It entails fusing personal abilities, expertise, and experience to produce a potent group dynamic. Effective communication, the development of a solid team culture, and excellent leadership are all ways to increase collective intelligence.

Analytical intelligence

Analyzing athletes' performance to create a customised training schedule and a successful competition strategy is a component of analytical intelligence. It analyses data and video using specialised software. Additionally, fitness aficionados can assess their performance with smartphone apps and connected watches.

The following are some of the data that the sports analysis is focused on:

Distance travelled; Speed of travel; Player's area covered by the heatmap; Passing success rate (in team sports); Attempts made to reach the goal;

Motion modelling; heart rate tracking; VO2 max, or the maximum quantity of oxygen the body utilises in a given amount of time;

Burned caloric intake; opposing team strategies and disposition; etc.

As artificial intelligence (AI) has advanced, analytical intelligence in sports has accelerated to improve performance indicator analysis and forecast athlete performance in the future.

Why is it so important to assess sports intelligence?

Set attainable objectives.

Athletes of all skill levels can set realistic goals based on their physical and mental capabilities according to the assessment of sports intelligence.

Determine the sport's profile

Young athletes can be guided to disciplines where they can succeed by using sports intelligence to determine their profile. Sports intelligence exams assist coaches in assigning players to roles in team sports, such as forward, midfielder, or defence on a football team.

Recognising Skills

Finding athletes that have the capacity to lead their team is made easier by measuring sports intelligence. Additionally, it can assist coaches in hiring players who best fit their aims and style of play.

Track the Development of Both Group and Individual Performance: It is feasible to track how team and athlete performance changes over time by measuring sports intelligence. It points out opportunities for progress as well as strengths and limiting factors. This may aid in the creation of particular training plans.

Improve team unity

Sports intelligence metrics facilitate the execution of measures that can bolster a team's sense of unity; encourage communication and the sharing of knowledge and abilities; foster understanding among team members; etc.

Mentally prepare yourself

The athlete's sports intelligence can be used by a psychologist to help them deal with stress during competitions and combat pressure from the media, the club, and the general public (<https://hrid.com/en>, May 16, 2023)
Important Elements of Athletic Intelligence are:

Cognitive Skills

Game IQ: Knowledge of the sport's regulations, tactics, and strategy.

Making decisions: Quick and precise reactions under duress.

Awareness of teammates, rivals, and the borders of the field or court is known as spatial awareness.

Emotional Intelligence

Stress management is the ability to remain composed and focused under duress.

Self-awareness is the ability to identify one's own mental states, abilities, and shortcomings.

Interpersonal Skills: Working together and communicating well with coaches and teammates.

Neurocognitive Abilities

Anticipation, hand-eye coordination, and reaction time.

These skills are enhanced by tools such as cognitive training games and neurofeedback.

How is sports intelligence measured?

One of the best methods for assessing sports intelligence is the psychometric test. One of the main components of sports intelligence is measured by these tests. Both individual and team sports can benefit from these assessments, which assist you in: ascertaining a team's or player's sports profile; Assessing a player's capacity for team integration; evaluating the athlete's ability to perceive; Examine how motivation and individual characteristics affect athletic performance (<https://hrid.com/en>, May 16, 2023)

Improving sports intelligence**Visualisation Methods**

Mental practice of plays or methods.

In order to improve performance in a variety of ways, visualisation is crucial. Several studies have demonstrated the several advantages of visualisation, which include: controlling any anxiety or pressures to help sportsmen maintain their composure and concentration.

Visualization inspires people by providing a clear picture of their goals.

It strengthens muscles via improving the cortical output signal, which raises muscular activation and, consequently, strength. It helps to increase attentional concentration.

It lowers anxiety and stress. Assists athletes in developing a more optimistic mind-set, which is typified by the removal of negative ideas and the visualisation of achievement.

Enables athletes to cultivate a more structured, organised, and planned way of thinking, Increases their understanding of their abilities. It equips players to handle pressure aiding in performance endurance and pain control.

Sports psychology

Pay attention to motivation, perseverance, and mind-set.

Technology Integration

Neuro-Tracker and other cognitive training programs enhance concentration and judgement.

New Developments in Performance Enhancement and Athletic Intelligence**Neuro-Sports**

Integrating athletics with neuroscience to improve focus, reaction times, and brain function.

Profiling of Genomic Information

Understanding individual predispositions to performance attributes and recovery requirements through genetic testing.

Holistic Methods of Training

Combining emotional, mental, and physical training into a single program.

AI-Powered Personalisation

Adjusting training plans according on wearable data, past results, and recuperation trends.

A crucial component of personal development is intelligence, which establishes the objectives of an activity and its guiding principles. A collection of fundamental characteristics of the cognitive realm manifested in its diverse manifestations is regarded as intelligence. Based on the findings of the educational experiment, intelligence has a significant role in athletic endeavours. Being the pinnacle of thought, intelligence stimulates an athlete's activity and establishes the framework for the application of the main conceptual rules: the unity of consciousness and activity, the holistic approach to training process organization, the distribution and evaluation of cause-and-effect relationships, and the conditioning efficiency of motor actions. Along with better speech patterns, behaviour, and interpersonal relationships-all of which are critical in all types of activities-intellectual development also results in a large rise in the amount of learnt knowledge, skills, and talents. Sport is therefore a useful tool for enhancing and developing intelligence. In sports, intelligence serves specialised purposes; its growth is linked to several intricate elements, including social behaviour, interpersonal interactions, problem-solving abilities, and the development of cognitive

capabilities. The quantity and calibre of knowledge acquired as well as the necessity of expanding it are factors that affect intellectual development.

Sports intelligence has a revolutionary impact on contemporary athletics. Athletes and teams are reaching previously unthinkable performance levels by fusing technology, data, and psychological insights. In addition to providing a competitive advantage, sports intelligence promotes a comprehensive approach to athletic development, producing players who are more resilient, balanced, and capable.

References

1. Badr NM, Radwan L. Building up sports IQ in handball and its relation with psychological fitness. [Internet]. 2010 [cited 2011 Aug 11]. Available from: [http://idosi.org/wjss/3\(S\)10/132.pdf](http://idosi.org/wjss/3(S)10/132.pdf)
2. Eriksson J. Executive control functions in athletic intelligence. [Unpublished thesis]. 2007 [cited 2010]. Available from: <http://www8.psy.umu.se/grundubildning/program/psykolog-programmet/Uppsatser/Examensarbete/HT2007/P629.pdf>
3. HRID. [Internet]. [cited 2023 May 16]. Available from: <https://hrid.com/en>
4. Kamlesh ML. Psychology in physical education and sports. 2nd ed. New Delhi: Metropolitan Book Publication; c1988.
5. Kamlesh ML. Indian International Congress in Sports Psychology. Gwalior: LNUPE Publication; c2009.
6. Kaur H, Sharma L. Athletic intelligence and different nature of sports: An analysis. *Int. J Mov Educ Sports Sci.* 2015;3(1):1-10.
7. Papanikolaou ZK. Athletic intelligence. *Int. J Phys Educ.* 2000;1:24-28.
8. Singer RN, Janelle CM. Determining sport expertise: from genes to Supremes. *Int. J Sport Psychol.* 1999;30(2):117-150.