

Cognitive Skills of Elite Football Players are Essential for Developing High Efficiency and Reduce Recovery Time after an Injury

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EDITORIAL

Football is the most popular sport in the world with more than 200 million people playing the sport worldwide^[1]. The decision-making ability of a player impacts their performances taking into account the readiness after an injury in reducing the time lost. Decisions within a sports context are dynamic with players required to make correct decisions while under pressure, with limited time, during various intensities of exercise and sometimes with limited resources and information^[2,3,4,5].

The sequences of these actions are not replicated throughout the match nor can they be precisely predicted. The decision-making process in football is a very complex one, requiring a high level of skill. Each player will approach a situation in their own individual ways and rely on a combination of intuition, experience and the rules of the game. In order to analyse the decision-making process, it is important to determine and evaluate the role of the various factors that may affect this skill^[6,7,8].

Information processing includes many elements like perceptual skills, knowledge base, environmental influences, decision-making and motor skills. All of these elements have a strong influence on sport performance^[9]. People have limited information processing capabilities and are required to reduce situational demands to only the important information^[10].

Players are faced numerous stimuli at the same time. Most of the time the player must identify which are the relevant stimuli and respond accordingly. However, there are times when they need to inhibit response and despite the presence of the stimulus that might usually invoke an action, they are required not to act.

The patterns of play change in football very quick, and players might need a transition from attack to defence in split seconds or the play might be shifted from the left to the right. The attention of a player is limited in time and thus players are required to be able to shift attention quickly.

ABSTRACT

The decision-making ability of a player impacts their performances taking into account the readiness after an injury in reducing the time lost. The decision-making process in football is a very complex one, requiring a high level of skill. Information processing includes many elements like perceptual skills, knowledge base, environmental influences, decision-making and motor skills. All of these elements have a strong influence on sport performance. In football decisions are made quickly without time for conscious thought. Facing numerous stimuli, players subconsciously decide which stimuli are important and which deserve no attention. Top players might require less information and still be able to make good decisions thus saving them time and allowing for quicker actions. Cognitive skills enhance sport performance and can also help with injury prevention because it is linked with neuromuscular control and co-ordination. Elite football players with a high level of cognition skills have the chance to reduce the recovery time after an injury.

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Key words: Cognitive skills; Sport performance; Injury recovery time

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In football decisions are made quickly without time for conscious thought. Facing numerous stimuli, players subconsciously decide which stimuli are important and which deserve no attention. Sometimes though, players might be impulsive and not consider all the available information when making a decision. Top players might require less information and still be able to make good decisions thus saving them time and allowing for quicker actions.

Cognitive skills enhance sport performance and can also help with injury prevention because it is linked with neuromuscular control and co-ordination. Slower reaction times and processing speeds, as well as lower visual and verbal memory has been linked to non-contact ACL injuries. Decreased cognitive ability may result in increased exposure to situations more likely to result in injury^[11,12].

Not only does better cognitive skills result in injury prevention, cognitive ability can also help players recover quicker from injuries. Cognitive behavioural treatments assist players in managing stress and can enhance the recovery process^[13]. High level performers may also perceive pain differently and are likely to have higher pain thresholds, allowing them to begin activities earlier^[14]. Rehabilitation should include proprioceptive components, healing the disrupted neuromuscular feedback systems, and addressing different levels of motor control^[15]. The cognitive elements involved in muscle control means that players with enhanced cognitive ability are likely to recover these features quicker. Healing visualisation techniques are also more likely to be effective in players who have mastered visualisation and imagery^[16].

There are some ways to assess sport specific cognitive function. Film and video clips are being commonly used as a testing tool to sport specific cognitive function. An advantage of this method is that it is reproducible and consistency between trials can be maintained allowing for objective evaluation^[17,18,19].

Football players are under pressure to make quick and accurate decisions to ensure positive results in matches. Cognition plays an important role in the decision making of football players. Professional football players have good ability to identify patterns and shift attention. They also display good ability to inhibit response and make accurate decisions with quick reaction times. Impulsivity varied amongst players and also showed great football specific memory.

Footballers are required to make instantaneous decisions in a dynamic and unpredictable environment. Decision making is a complex process beginning with the perception of a stimulus. The information obtained from the stimulus is then processed before an action is executed. On the football pitch, players have limited time to make a decision before the next pattern of play. Cognition plays an important role in the decision making process, and players with a very efficient motor control need less effort for the same football actions and are capable to control lots of movements with saving more energy. This statement is supported by an impressive study performed by Eiichi Naito and Satoshi Hirose^[20]. An elite professional football player having a high motor efficiency control brain could develop multitasking ability when is performed a cognitive task during football training or match.

In conclusion elite football players with a high level of cognition skills have the chance to reduce the recovery time after an injury and become more efficient in keeping their physical and technical characteristics at the pre-injury level.

CONFLICT OF INTERESTS

There are no conflicts of interest with regard to the present study.

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