

Correlation between the Usage of Imagery and Sports Performance among Cricket Players

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ABSTRACT

Mental imagery, also known as visualization or mental rehearsal, involves creating vivid mental representations of desired actions, situations, or outcomes. The use of mental imagery techniques has gained considerable attention in sports psychology as a tool to enhance performance by improving athletes' cognitive and psychological states. The Imagery and Sports Performance questionnaire was used to collect data from 63 cricket players during a game. Significant group differences in imagery usage were found using one-way analysis of variance ($F = 16.435$, $p < .01$) for cricket players. Both internal and exterior imagery were shown to have a beneficial effect on athletic performance ($r = 0.78$; $p < 0.01$), whereas the same could be said of internal imagery and sports performance ($r = 0.79$; $p < 0.01$). This paper explores the potential benefits of mental imagery techniques on the sport performance of cricket players.

Keywords: Imagery, Sport performance, Mental, National, State

I. INTRODUCTION

Cricket, as a highly competitive and skill-based sport, demands not only physical prowess but also mental fortitude from its players. In recent years, researchers and practitioners in sports psychology have increasingly recognized the importance of mental imagery techniques in enhancing the performance of athletes across various disciplines. Mental imagery, often referred to as visualization or mental rehearsal, involves creating vivid mental representations of desired actions, situations, or outcomes. It allows athletes to engage their minds in a simulated practice, preparing them for the real challenges they may encounter during gameplay.

While the use of mental imagery techniques has gained considerable attention in sports psychology, its application in cricket has received limited research focus. Cricket, being a sport that requires a unique combination of physical skill, strategic thinking, and concentration, provides a rich context to explore the potential benefits of mental imagery techniques on performance enhancement. The ability to visualize and mentally rehearse different aspects of the game, such as batting techniques, bowling actions, fielding strategies, and decision-making processes, can significantly impact a player's performance and contribute to their overall success.

Mental imagery techniques draw upon cognitive and psychological processes that can impact an athlete's performance. From a cognitive perspective, mental imagery involves the creation and manipulation of mental representations that simulate specific movements, situations, or sequences of actions. These mental representations activate similar neural pathways as physical execution, facilitating the development of motor skills, muscle memory, and improved performance.

Psychologically, mental imagery techniques can influence an athlete's mindset, emotions, and behavior. By engaging in vivid mental imagery, players can enhance their self-confidence, self-efficacy, and overall mental resilience. Additionally, mental imagery can reduce anxiety and stress levels, allowing players to remain calm and focused under pressure. Furthermore, mental imagery can promote goal setting, motivation, and concentration, enabling players to optimize their performance and strive for excellence.

II. REVIEW OF LITERATURE

Lin, Hsiao-Hsien et al., (2021) Researchers in this study looked at how athletes' visualization

skills, levels of physical anxiety, and overall performance were affected by exercising their imaginations. A combination of research methods was used for this investigation. A total of 55 competitive fin swimmers who had previously engaged in imagery training were selected using a snowball sampling technique. IBM SPSS Statistics for Windows, Version 26.0 was used to collect data for statistical analysis; the Pearson product-moment correlation coefficient (PPMCC) was calculated; and the findings were compared to the judgments of three experts and subjected to multivariate validation. The findings showed that even though imagery training can aid athletes in enhancing their performance and significantly lowering their anxiety during competition, athletes are still vulnerable to making mistakes due to internal and environmental factors and having negative thoughts that reduce their likelihood of competition participation. Fin swimmers can increase their performance, reach their goals, and feel more satisfied with the competitive process and their results if they receive more instruction in strategic and technical imagery.

Sarteep, Salah (2021) The primary goal of this research was to investigate the extent to which gymnasts' ability to engage in mental imagery influenced their performance of the dive roll on the floor exercise. Thirty-five male students from the second year of salahddin university Erbil's college of physical education and sports science were randomly selected to take the Sport Imagery Questionnaire and the dive-roll test to assess their ability to visualize themselves performing athletic skills.(191.44 years old; n=35). a descriptive approach was used since it was the most appropriate for our study. Statistics including mean, standard deviation, and person correlation coefficient were employed by the researchers. Overall, the results showed a moderate degree of Mental Imagery, and there was a substantial correlation between the variables. The study's author advised prioritizing visual imagery with the usual steps of studying and practicing.

Di Corrado, Donatella et al., (2020) The process of seeing something in one's mind is called mental imaging, and it's a multi-sensory one that involves as many senses as possible. Imagery is defined as the mental state achieved by seeing oneself performing a task or improving one's performance in a sporting context. Analyses of the effect of images on motor performance have shown their positive effects. The purpose of this research was to compare the mental imagery abilities of elite athletes to those of non-athletes in order to determine whether or not there were any significant differences between the two groups. Participants ranged in age from 8 to 13 (Mage = 10.50, SD = 1.73) and included both competitive athletes (n = 48) and non-athletes (n = 48). All of the participants had been training for at least five years before competing. They finished the MIT, or Mental Imagery Test. Mental imagery ability was significantly greater in competitive athletes compared to non-athletes. The research contributes to the body of knowledge in the specific field of mental imagery, providing more evidence for the multifaceted character of this technique and its use in the fields of motor and athletic sciences.

Abodunrin, Olunike (2019) Physical and mental training have both been shown to improve athletes' results over time. Increasing motivation, self-confidence, ability to deal with injury and suffering, and regulation of arousal are just few of the ways in which cognitive imagery may improve performance. Most athletes and coaches are unfamiliar with the idea, its application, and its consequences on performance, despite the fact that it is a psychological technique. This research was carried out at the University of Ibadan with the idea that coaches and trainers may instill in their athletes a habit of using cognitive imagery to improve their performance in both training and competition.

Sari, Ihsan (2015) The goals of this research are to better understand how mental imagery influences intrinsic motivation, self-efficacy, and performance. The study also aims to see if these factors vary with the winner's gender and medal status. The 133 volunteers were all active kick boxers. Data was gathered using the Sport Imagery Questionnaire, the Self-Efficacy Scale, and the Sport Motivation Scale. There were no statistically significant

differences between the sexes in any of the measured factors after controlling for medal success. Imagery was found to have substantial positive correlations with intrinsic motivation and self-efficacy. Furthermore, it was shown that 12% of the variation in self-efficacy could be accounted for by motivating general mastery imagery. 31.2 percent of the variation in intrinsic motivation may be accounted for by motivational cognition and general mastery imagery. Finally, it is possible to state that imagery influences both intrinsic drive and self-efficacy.

Cumming, Jennifer & Williams, Sarah (2012) Mental imagery is a key component of the acquisition and execution of motor skills. Mentally rehearsing an action activates the same regions of the brain as the subconscious preparation and execution of the action itself (Lotze & Halsband, 2006; Munzert, Lorey, & Zentgraf, 2009). It's important to note that, neurologically and behaviorally speaking, visualization is quite similar to the real thing. This functional relationship provides researchers with a direct approach to study covert motor processes important in everyday life, such as anticipating the effects of an action, preparing or intending to move, learning or relearning motor skills (e.g., recovery after a stroke), or remembering an action (Jeannerod, 1995). Because of its versatility and the knowledge it may provide about the brain's inner workings, cognitive psychology is only one of many disciplines that is interested in imaging.

11 Abstract The use of mental imagery to improve one's athletic or artistic performance is as old as the art forms themselves. In this chapter, we draw on both theoretical and empirical studies to define imagery and discuss its salient features. Cognitive neuroscience provides an explanation for the role of images in the execution of motor skills, and we address its implications for improving the design of treatments by applying the PETTLEP model (Holmes & Collins, 2001). We also address how various components of imaging capacity might be enhanced, as this is a significant individual difference variable determining the usefulness of imagery. We next detail additional imaging results and propose a new model based on our analysis to direct future studies and practical applications. We wrap up by discussing where this field of study is going and how performers may immediately put what they've learned into practice.

III. RESEARCH METHODOLOGY

The participants in this analysis received Cricket-specific training. A 25-item Imagery Questionnaire and Sport Performance Scale (SPS) were utilized as instruments in this research. The 63 participants were 22 national players, 23 state players, and 18 district players.

IV. DATA AND INTERPRETATION

Imagery Items
Items using imagery were rated. The mean for Internal Imagery is higher than that for External Imagery ($\bar{x} = 22.4401$), which is $\bar{x} = 21.4024$.

Table 1: Imagery Items among Cricket Players

Imagery Items	Mean
Internal Imagery	22.4401
External Imagery	21.4024

Level of Imagery Usage among Cricket Players from different rank

One-way analysis of variance revealed statistically significant variations in cricket players' use of imagery $F = 16.435$, $p < .01$ (Table 2).

Table 2: Level of Imagery Usage among Cricket Players from different rank

Players According to Rank	Imagery Usage	
	Mean	Value-F
National	21.7024	16.435*
State	19.8142	
District	17.4420	

* $p < 0.01$

The results revealed that national and state-level players used images more frequently than

their counterparts at the district level, whereas cricket players at the district level used images at a lower rate.

Sports Performance of Cricket Players from 4 different ranking

Using a one-way analysis of variance, we found statistically significant variations in cricket players' rankings of athletic performance, $F = 14.003$, $p < .01$. (Table 3).

Table 3: Level of Sport Performance among Cricket Players from different rank

Players According to Rank	Sport Performance	
	Mean	Value-F
National	18.7892	14.003*
State	16.1182	
District	14.1256	

* $p < 0.01$

The results indicated that district-level Cricket players performed worse than state-level players, and that national-level Cricket players performed the best.

The rating of the Players is one of the most influential factors that may boost or hinder their success. It's hardly surprising that the greatest scores for sport performance went to national and state Cricket players given their superior imagery utilization, years of expertise, and track records of success at the highest levels of the sport.

Relationship between the Types of Imagery and Sport Performance

In an analysis of 63 professional cricket players, a significant ($P .01$) connection of 0.78 was found between the use of internal imagery and performance on the field. In addition, a correlation of 0.79 was found between the practice of External Imagery and athletic success.

Table 4: The Relationship between Types of Imagery and Sport Performance among Cricket Players

Types of Imageries	Sports Performance
Internal Imagery	0.78** (0.000)
External Imagery	0.79** (0.000)

** $p < .01$

Internal and external imagery were found to be effective in raising athletic performance. The results of this study provide credence to the idea that visualizing success in a sporting event might help you achieve it. Positive benefits of mental imagery on athletic performance were found.

v. CONCLUSION

This study's findings indicate a link between cricket players' use of both internal and external images and their performance on the field. The use of mental visualization techniques has the potential to greatly improve cricket players' athletic abilities. Players may enhance their mental and emotional states, learn new abilities, and play at their best in cricket by using mental imagery into their training routines and competition plans. Coaches, trainers, and players may use mental imagery to their full potential by first learning about its advantages and then learning about the aspects that determine its efficacy in the hard and highly competitive world of cricket.

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