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A comparative study on sports imagery ability of different age level cricket players

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Abstract
The purpose of this study was to compare the Sports Imagery Ability of the cricket players as per their different age level categories. The study sample included 410 cricketers from different divisions, clubs, universities and cricket coaching centers of West Bengal, India. Sports Imagery Ability was assessed by Sports Imagery Questionnaire (SIQ) which was developed by Craig R Hall, Diane E Steven and Allan Paivio in the year of 1998. One-way analysis of variance (one-way ANOVA) indicated that there were significant differences in Sports Imagery Ability between the cricket players of different age level categories. Significant differences also found in regard of their performance on the various Sports Imagery subscales. A definite psychological-skills status related to sports imagery ability comes to the front, indicating that senior age category players, expressed high proficiencies in Sports imagery ability (73.02 percent) whereas a significant difference lies between U-17 and U-23age level category players. And U-17 players possess higher Cognitive General in specific segmental parts of Sports Imagery Ability. The essential conclusion drawn from the study that there were significant differences in Sports Imagery ability between the various age category cricket players. Studies reveal the fact that age may be the influencing factor for psychological preparation or for determining the performing ability of the cricket players.

Keywords: Cricket, age level, sports imagery ability

Introduction
Cricket is second most popular sport after football in the world, with two billion fans and 120 million people playing the game. Cricket is an important and major sport in at least 12 countries of the world, its official governing body comprises 105 member nations. It began in England and is mainly played there and in the former British Empire countries, but it has also become very popular in Asian nations. In some sports, such as hockey, football or basketball, the physical aspect dominates. In cricket, especially in Test cricket, the physical, as well as the mental aspect of the game, become demands the best performance. In professional sports, it has long been known that the best players are able to think, make strategies and manage their emotions well so that they are able to express themselves physically and technically. This is what makes them different from others.

If we look at the world's top 20 cricketers, all of them have practically similar physical attributes in terms of speed, coordination, strength and mobility or other physical fitness components. These physical attributes will be similar to all the other cricketers in international and first-class level cricket. So where and what is the difference? According to research, it is a mental skill or mental ability or psychological attribute which differentiates the winners from the others.

Mental skills play an important role in sports participation and performance. According to the research report, Psychological factors play a key role in determining an individual's development capacity and also facilitate the transformation of potential into talent (MacNamara, Button, Collins, 2010) [1]. Research reports that mental readiness was a significant factor in determining final Olympic performance (Orlick, 1992) [2]. It is also observed that mental skills play a crucial role in achieving peak performance in golf at professional and college levels (Cohn, 1991) [3]. In golf, mental skills are one of the most important prerequisites for achieving performance excellence. In kickboxing, mental skills are also one of the key factors for maintaining expert performance (Devonport, 2006) [4]. In psychological preparation and sports performance, imagery plays a very significant role. Imagery is the ability to form an idea or a picture in the mind or to imagine or bring forward a life experience (Weinberg RS, 2015) [5]. Imagery seems to be one of the most important and effective practices for sportive performance (McIntyre TE, 2007) [6].

Sport skills can be imagined in three different ways, an athlete feels like they are in their own body and works in their require ways (Intrinsic Image), an athlete thinks of himself as an actor when performing any skill (Extrinsic Image) or an athlete can exercise by picturing another person performing an ideal skill (Rostami R, 2014) [7]. Planning or the strategies required for sports such as Self-Confidence, Relaxation, Motivation, Target Setting and Concentration practices can be applied to an athlete in accordance with their individual differences and needs. Imagery is called visualization or mental rehearsal. Imagery means using all of your senses (e.g., see, feel, hear, taste, smell) to rehearse your sport in your mind. In a study on Exercise and Imagery, the imagery was related to individuals' motivation, Intent for exercise and exercise behaviour (Robin N, 2007) [8]. Research shows that athletes use 4 types of imagery: Visual, Kinesthetic, Audial and Olfactory.

Aim of the study

The aim of the present study is to find out the difference of Sports Imagery Ability among the different age levels cricket players.

Method

Selection of Subjects

Data have been gathered from several first-division and second-division clubs that are affiliated with the Cricket Association of Bengal. Data was also collected from various cricket coaching centers and universities of West Bengal. The criteria imposed for the selection of the subjects was:

- You must be at least 16 years old.
- Participated in at least 20 games in one session.

Selection of test items and description of tools

The sport imagery questionnaire

The test item selected for evaluates the psychological parameter for this study was Sports Imagery Questionnaire (SIQ), developed by Craig R Hall, Diane E Steven and Allan Paivio in the year of 1998. The SIQ consist of 30 questions. The questions are directed toward the answer to the motivational and cognitive imagery ability of the sportsperson. Entire question having five sub-variables, each sub variable is having 6 questions. Sub variables are cognitive general, cognitive specific, motivation general-mastery, motivation general-arousal, and motivation specific. Out of this five sub-variables of the Sports Imagery Ability researcher selected only two sub-variables to full fill his requirement for this study, which are: Cognitive General, Motivation General-Arousal.

- **Cognitive General**

Cognitive general refers to the competitive strategies or game plans that players implement in a competitive situation. Here In most cases, participants have to think with their general cognitive abilities and form a picture of the output of the upcoming situation.

- **Motivation General Arousal**

Motivation The general picture of arousal refers to a player's arousal, relaxation and competitive anxiety, it mainly emphasizes the ability of the player to relax in a critical situation, how he manages his anxiety level in a difficult competition condition, how he manages his excitement level, etc.

Here in this study, The Cricketers were required to rate how often they experienced the situations presented in each of the related questions by using a 7-point Likert-type scale. In this scale, the response possibility lays on the option of never engage which carries 1 mark too often engage which carries 7 marks.

Administration of tests and collection of data

Researcher take the appointment from various 1st Division and 2nd Division clubs participated in Kolkata league and also from the coaching clubs of Kolkata and different Universities of West Bengal. Researcher has been visited those places and administered the test by providing the set of questionnaires to the subjects. Before attempting the questionnaire researcher described the aim, purpose and necessary details connected with the study. Also, the researcher demonstrated the guidelines before filling up the questionnaire and also concern them subject about time limit. The athletes were assured regarding the confidentiality of the answer they give. Also, it was intimated that who wish to know their score could collect the same from the investigator either in personally or through email. The data will collected as per procedure provided in the manual of the questionnaire.

Reliability of the questionnaire

To check the reliability of the questionnaire, researcher used the Cronbach's alpha coefficient method as statistical procedure during his study.

The reliability of the questionnaire was .70 to .88.

Name of questionnaire Author / Year	Total question	Total sub-variables	Questionnaire Reliability/Reference	Reliability after Pilot Study
Sport Imagery Questionnaire (SIQ), Author- Craig R Hall, Diane E Steven and Allan Paivio / Year-1998	30 Questions	5 Sub-variables	.70 to .88 (Hall *et al*. 1998)	.684 to .846

Statistical Techniques

Data were analyzed by the use of the IBM SPSS Statistical analysis package (Version 21). The following statistical procedures were used to analyze the data: In Descriptive statistics, Mean, Standard deviation, Standard error of mean, Percentage was analyzed and in Inferential Statistics'' test (ANOVA) were employed for analyze the difference among the cricketers.

Result and Findings

Statistical analysis of the Sports Imagery Ability of different age level cricket players are reflecting in the figure and table which are given below:

As per age category

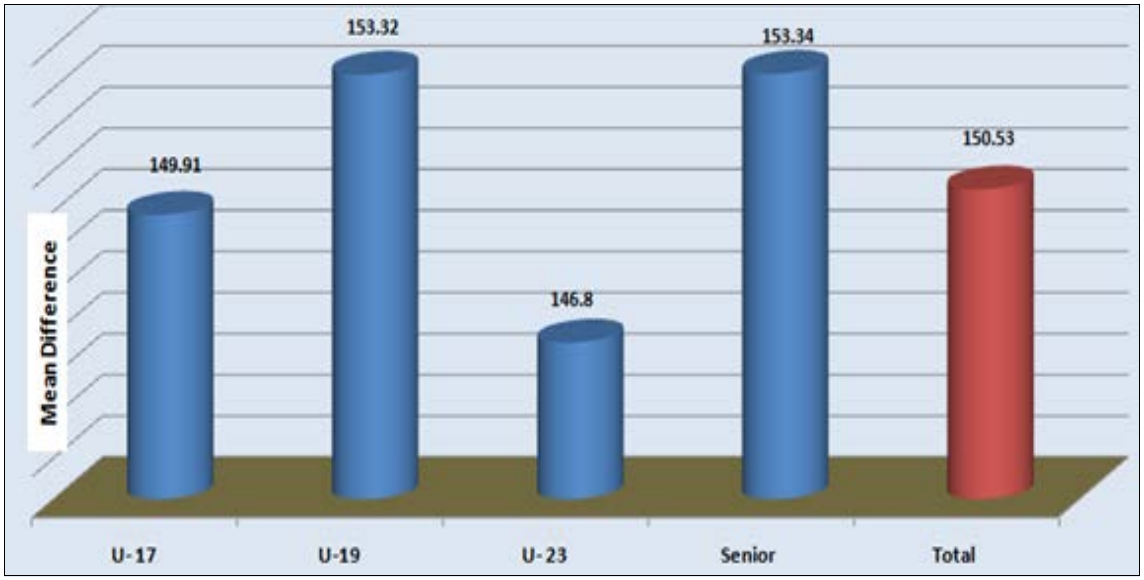

Fig 1: Graphical representation of sports imagery ability of cricket players as per age category

Table 1: Descriptive analysis of sports imagery ability of cricket players as per age category

		N	Mean	Std. Deviation	Std. Error	Percentage (%)
Sports Imagery Ability	U-17	106	149.91	27.27	2.64918	71.39
	U-19	134	153.32	24.14	2.08545	73.01
	U-23	120	146.80	23.11	2.11034	69.91
	Senior	50	153.34	27.50	3.89019	73.02
	Total	410	150.53	25.18	1.24385	71.69

Table No- 1 shows the Mean and SD of Sports Imagery Ability of different age categories U-17, U-19, U-23 and seniors cricketers which are 149.91±27.27, 153.32±24.14, 146.80±23.11 and 153.34±27.50 respectively. Seniors and U-19 players possess almost the same Sports Imagery Ability with a score percentage of 73.02 and 73.01 respectively. Which is considered higher in the groups.

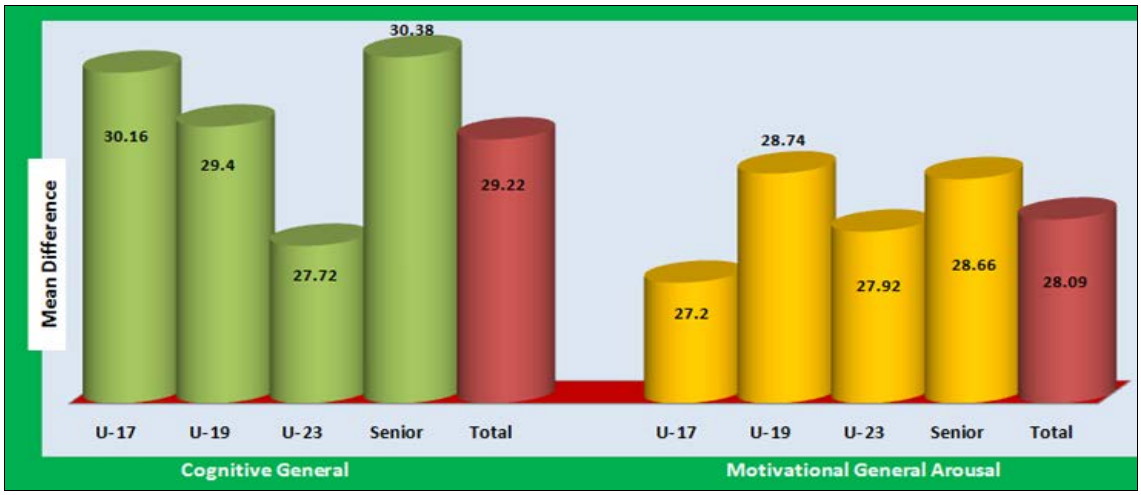

Fig 2: Graphical representation of sports imagery ability of cricket players as per different psychological variables and age category

Table 2: Descriptive analysis of sports imagery ability of cricket players as per different psychological variables and age category

		N	Mean	Std. Deviation	Std. Error	Percentage (%)
Cognitive General	U-17	106	30.16	7.19	.69914	71.81
	U-19	134	29.40	5.31	.45897	70.01
	U-23	120	27.72	5.50	.50237	66.01
	Senior	50	30.38	5.92	.83734	72.33
	Total	410	29.22	6.04	.29858	69.59
Motivational General Arousal	U-17	106	27.20	6.11	.59433	64.78
	U-19	134	28.74	5.95	.51437	68.44
	U-23	120	27.92	5.34	.48754	66.49
	Senior	50	28.66	5.29	.74921	68.24
	Total	410	28.09	5.76	.28453	66.90

Table No-2 shows the Mean and SD of selected sub-variables of Sports Imagery Ability namely Cognitive General and Motivational General Arousal on the basis of the cricketer of different age categories namely U-17, U-19, U-23 and seniors. The table shows that in Cognitive general senior players are possessing a higher Mean value which is 30.38 ±5.92 and in the case of Motivational General Arousal under 19 players are having higher Mean score which is 28.74± 5.95.

Table 3: Inferential statistical analysis of sports imagery ability as per the age category of the cricketers

		Sum of Squares	DF	Mean Square	F	Sig.
Sports Imagery ability	Between Groups	3146.276	3	1048.759	1.661	.175
	Within Groups	256295.600	406	631.270		
	Total	259441.876	409			

Table No- 3 shows the significant difference in Sports Imagery Ability among the different age categories of cricketers (U-17, U-19, U-23 and seniors). The degree of freedom and significance level set at 3/406 DF and .05 level respectively. The F ratio found from one-way analysis (ANOVA) is 1.661 which is not significant at 0.05 level. There is no significant difference found among age categories of the cricketers in Sports Imagery Ability.

Table 4: Inferential statistical analysis of sports imagery ability of cricket players as per different psychological variables and age category

		Sum of Squares	DF	Mean Square	F	Sig.
Cognitive General	Between Groups	433.687	3	144.562	4.043	**.007****
	Within Groups	14516.217	406	35.754		
	Total	14949.905	409			
Motivational General Arousal	Between Groups	159.745	3	53.248	1.611	.186
	Within Groups	13416.352	406	33.045		
	Total	13576.098	409			

Table No- 4 shows the significance difference of selected sub-variables namely Cognitive General and Motivational General Arousal of Sports Imagery Ability among the cricketer of different age categories (U-17, U-19, U-23and seniors). Table shows that, In Cognitive General, there is significant difference found among age categories. The F ratio found from one-way analysis (ANOVA) is 4.043 which is significant at 0.05 level. To know the inter-group differences in Cognitive General, a Scheffe's post hoc comparison was done and the results are displayed in table no 5.

Table 5: Multiple comparisons between groups

Dependent Variable	Group	Groups	Mean Difference	Std. Error	Sig.
Cognitive General	U-17	U-19	.75739	.77726	.813
		U-23	2.43538*	.79703	.026**
		Senior	-.21962	1.02586	.997

Table No- 5 shows the Scheffe's post hoc comparison for further analysis of Cognitive General Ability among the cricketers of different age categories (U-17, U-19, U-23and seniors). Table reveals that there is significant difference lies between U-17 and U-23. And U-17 players are possessing higher Cognitive General of Sports Imagery Ability with Mean difference of 2.44 and a significant value of 0.026.

Discussion

Discussion of the findings with regards to an understanding of the imagery ability of the cricketers has been presented here.

After analysis of the collected data it is found that there is no significant difference in imagery ability among the cricketer of different age categories (Table no-3), But descriptive analysis reveals the fact that, as per age category senior player possess higher imagery ability then other group with the percentage score of 73.02. The percentage score of Under 19 players (73.01) are almost equal to the senior player (Table No-1). Ribeiro *et al*. (2015) examined the imagery use of soccer goalkeepers based on different age groups. His finding shows that Under-21 soccer players used imagery significantly less than their older players. The subjects of Ribeiro's study are from different sports (Soccer), so for that, maybe the characteristics (imagery) of the player of this study does not similar to the characteristics of the player of the current study. But the descriptive statistics of the recent research reveal the fact that the senior or older players possess higher mental imagery ability, which is accepted in support with the present study. Results also established the information that, in other two sub-variables of sports imagery ability namely cognitive general and motivational general arousal, only in case of cognitive general significant difference found (Table No- 4). Here under 17 players are having significant differences with Under 23 player. Though as per descriptive analysis, senior player are posses' higher percentage score, which is 72.33 and in case of motivational general arousal, under 19 players possess higher percentage score which is 68.44. But in both cases, it is found that the score of senior players and under 19 players are very close to equal (Table no- 2). McCarthy *et al*. (2010) [10] also explained in his research that in general, younger athletes have limited use of psychological skills compared to older ones. Thomas *et al*. (1999) [11] reported in his study that older athletes used less cognitive skills specifically imagery than young athletes, this reporting contradict with the result of the current research, but it was also reported by Thomas that older athletes used less activation strategies and more automaticity than the younger ones which match with the result of the present study.

Conclusion

On the basis of the result and descriptive statistics it is concluded that senior cricket players possess higher mental imagery ability then the junior players. But significantly the age cannot be considered as a forecaster of mental imagery ability of the cricket players. This study could provide useful insights into identifying age-specific psychological characteristics (Especially imagery ability) for the purpose of enhancing the psychological skills training programmes required for cricket.

References

1. Macnamara A, Button A, Collins D. The role of psychological characteristics in facilitating the pathway to elite performance. Part 1: Identifying mental skills and behaviours. The Sport Psychologist. 2010;24:52-73.
2. Orlick T. The psychology of personal excellence. The Contemporary Thought on Performance Enhancement. 1992;1:109-122.
3. Cohn, *et al*. An exploratory study on peak performance in golf. The Sport Psychologist. 1991;5:1-14.
4. Devonport TJ. Perceptions of the contribution of psychology to success in elite kickboxing. Journal of sports science and medicine: Combat sports special issue, 2006. Available from: http://www.jssm.org [Accessed 07/07/10].
5. Weinberg RS, Gould D. Foundations of Sport and Exercise Psychology. (Çeviren: Şahin, M., Koruç, Z.), Nobel Akademik Yayıncılık; c2015. p. 372.
6. McIntyre TE, Moran AP. A qualitative investigation of meta imagery processes and imagery direction among elite athletes. J Imagery Res Sport Phys Activ. 2007;2(1):1-20 7.
7. Rostami R, Rezaee M. Prediction of Cognitive and Motivational Functions of Sports Imagery in Veteran Basketball Players. Iranian Journal of War & Public Health. 2014;6(3):87-93.
8. Robin N, Dominique L, Toussaint L, Blandin Y, Guillot A, Le Her M. Effects of motor imagery training on service return accuracy in tennis: The role of imageability. International Journal of Sport and Exercise Psychology. 2007;2:175-186.
9. Ribeiro J, *et al*. The Use of Imagery by Portuguese Soccer Goalkeepers. Journal of Imagery Research in Sport and Physical Activity; c2015. p. 1-9.
10. McCarthy P, Jones M, Harwood C, Olivier O. What Do Young Athletes Implicitly Understand about Psychological Skills? Journal of Clinical Sport Psychology. 2010;4:158-172.
11. Thomas PR, Murphy SM, Hardy L. Test of Performance Strategies: Development and preliminary validation of a comprehensive measure of athletes psychological skills. Journal of Sport Sciences. 1999;17:697-711.
12. Hall CR, Stevens DE, Paivio A. Sports Imagery Questionnaire: Test Manual, Fitness Information Technology publishers. Morgantown, West Virginia; c1998.
13. https://quadrant.org.au/magazine/2016/01-02/cricket-great-mental-game/
14. http://www.cricketlab.co/cricket-mental-training.html