International Journal of Advanced Research and Development
ISSN: 2455-4030
Impact Factor: RJIF 5.24
www.advancedjournal.com
Volume 3; Issue 2; March 2018; Page No. 1396-1398

A comparative study of sports intelligence among different level of performance in gymnastics

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Abstract
The purpose of this study was to assess the effectiveness of Sports Intelligence ability among different level of performance of Gymnastics players. Thirty subjects were selected having specialization in Gymnastics and with different level of performance (10 gymnasts of each level i.e. beginner, intermediate and advance gymnast) representing the different colleges and currently studying in various colleges and participated at different level of competitions. Objective of the study was to assess the comparison of Sports Intelligence ability among different level of performance of Gymnastics players. Self-developed questionnaire "Sports Intelligence Questionnaire (SIQ- G)" was used for assessing the effectiveness of Sports Intelligence. To assess the data descriptive statistics (Mean, Std. Deviation) has been used and one – way ANOVA was employed to compare different level of performance. The results of the study indicated that there were significant differences in Sports Intelligence among Gymnastics Players between the groups.

Keywords: gymnastics, sports intelligence, questionnaire, level of performance

Introduction
Intelligence is utmost requirement in human life. Intelligence is a household word- so commonly used by people of all walks of life and yet its concepts vary drastically from one person to another. Intelligence means different things to different people. This is the only things which separate human beings from animals. Man is the most intelligent animal because he surpasses all other animals in adaptability and adjustability (the basic variables of intelligence). Intelligence is a highly complex construct that has various meaning and interpretations.

Some psychologists consider intelligence as a "general ability" of the human organism to act in a certain way. Human organism has internal as well as external, Conscious as well as unconscious aspect. Similarly, intelligence has "inner" (thinking reasoning) as well as "outer" (physical adjustment) expression.

An intelligent individual not only thinks intelligently but acts intelligently too. Allport (1965) [1] remarked "Intelligence is difficult to define most writers point to it as the innate potential of a person for meeting adequately new problems and condition of life. Certainly, there is something that distinguishes an idiot from a genius and this factor we call 'general intelligence. In present era of highly competitive sports world, players are under constant threat of being wiped out of the team, its quiet challenging for them to improve and maintain the most desirable performance for quiet long enough and continuing performing better than their last time. Athletic intelligence is the key for success in the sports arena. Athletic intelligence breaks the ground between an elite, mediocre and novice (Eriksson, 2007) [4].

The concept of Sports Intelligence was developed by Howard Gardner (1985). He introduced the eight multiple intelligence theory and it has come out the concept of body kinesthetic intelligence particularly referring to "ATHLETIC ABILITY and MOTOR COORDINATION".

Frisk & Strom (1998) [5] made an attempt to explain the whole dynamics of sports intelligence by proposing four main categories: the social aspect of game understanding, intellectual and perceptual and physiological abilities. These categories are then mediated by the inhere. Papanikolau (2000) [8] describe Sports Intelligence as "the ability to learn and improve motor skill and motor control. The important to adjust quickly to different situation, organize the time and space and to integrate this cognitive information with posture and balance.

Procedure and Methodology
Subjects
For the purpose of the study the total number of thirty (30) male Gymnasts were selected using purposive sampling. All the 30 subjects are represented at different level of performance. The age of subjects was ranging 17 years and above. The mean age of the subject was 19.43 years.

Tool
The Sports Intelligence Questionnaire (SIQ- G) was developed by Sharma & Sharma (2018). Sports Intelligence Questionnaire (SIQ- G) is a standardized questionnaire. The reliability of the question is 0.865 and for establish the validity of the questionnaire Content Validity was computed.

Procedure of Data Acquisition
The data was collected by administrating Sports Intelligence Questionnaire to the thirty subjects practicing Gymnastics at different level of performance i.e. (Beginner, Intermediate and

Advance). All the gymnasts were assembled and the purpose of the study was informed to them. The questionnaire administered under the supervision of research scholar. The scoring of the questionnaire was done with the help of manuals.

Statistical Analysis

The collected data was analyzed by computing Descriptive Statistics and one-way ANOVA to find the difference between the mean. Further the level of significance was set at an alpha level of 0.05. The statistical analysis was performed with the help of SPSS 18. The scores of the questionnaire were analyzed to determine any significant difference that might exist between different level of Gymnastics i.e. (Beginner, Inter-mediate, and Advance). and the result is presented in the following table 1.

Table 1: Descriptive Statistics of Sports Intelligence among Gymnastics players representing different level of performance

Sports Intelligence	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Beginner	10	11.00	3.55	1.12	2.00	14.00
Intermediate	10	18.00	1.63	0.51	16.00	20.00
Advance	10	23.20	1.68	0.53	22.00	26.00
Total	10	17.40	5.61	1.02	2.00	26.00

Table no. 1 indicates that descriptive statistics value of Sports Intelligence gymnastics players is to experience stimulation between beginners, intermediate and advance players which shows that mean and standard deviation values of beginners, intermediate and advance players. The mean value of Beginner Gymnast was 11.00 and standard deviation value 3.55, Mean value of Intermediate Gymnast was 18.00 and standard deviation value 1.63 and Mean value of Advance Gymnast was 23.20 and standard deviation value was 1.68 respectively. Graphical representation of the data is presented in figure 1.

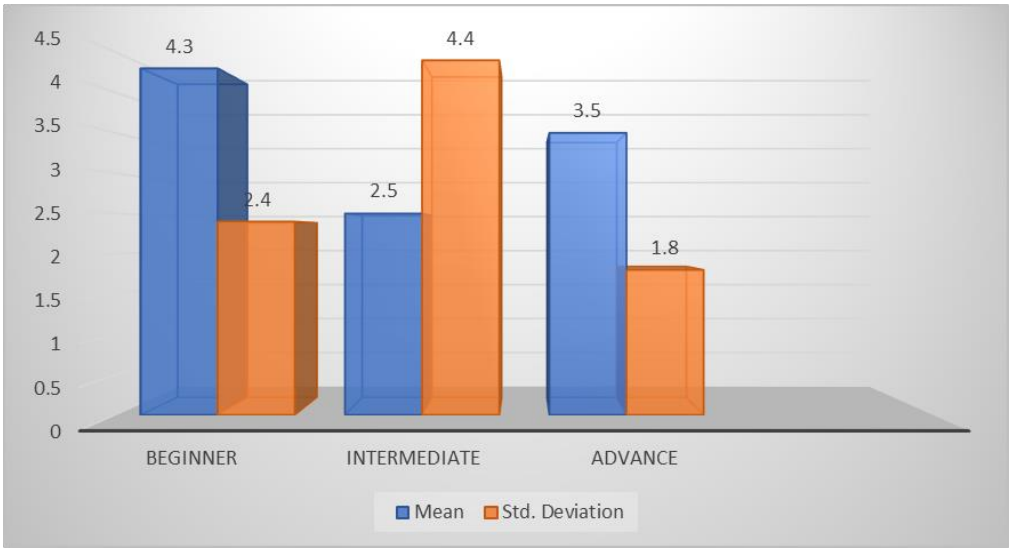

Fig 1: Mean and Std. Deviation scores of Sports Intelligence among Gymnastics Players of different level of performance

To test the significant difference among the group at different level of performance, one- way ANOVA was computed. Findings related to the ANOVA is presented in table no. 2.

Table 2: One-way ANOVA of Sports Intelligence among difference level of performance

		Sum of Squares	df	Mean Square	F	Sig.
Sports Intelligence	Between Groups	749.60	2	374.80	61.85	.001
	Within Groups	163.60	27	6.05		
	Total	913.20	29			

*P< 0.05

From table no. 2 revealed that there was significant difference in Sports Intelligence among the Gymnastics players between the groups, F (2, 27) = 61.85, P< 0.05 respectively. Since, the significant difference was obtained in between the groups post hoc analysis was computed. Findings are shown in the table no. 3.

Table 3: Post Hoc Analysis of Sports Intelligence among Gymnastics players representing different level of performance

Dependent Variable	Groups (I)	Groups (J)	Mean Discus Difference (I- J)	Std. Error	Sig.
Sports Intelligence	Beginner	Advance	-12.20*	1.10	.001
		Intermediate	7.00*	1.10	.001
	Intermediate	Advance	-5.20*	1.10	.001
		Intermediate	7.00*	1.10	.001
	Advance	Intermediate	5.20*	1.10	.001
		Beginner	12.20*	1.10	.001

*P< 0.05

From the table no. 3 we can see the LSD comparison of Sports Intelligence which revealed about the mean scores among Gymnastics players. There was significant difference in Sports Intelligence between the Beginners, Intermediate and Advance groups in Gymnast.

Discussion of Findings

Results of the study has revealed that significant difference is obtained between the group. Further analysis has revealed that advance and intermediate player have shown better Sports Intelligence in comparison to beginner. Based on the research results in the past seems that doing gymnastics curriculum-based training for the purpose of facilitating the performance, requires a certain level of skill and that could be a reason why elite gymnast were better in skill, strategy, and kinesthetic intelligence compared to non-elite gymnast. This is because they were more experienced in and more familiar with their sport fields, and as a result, skill, strategy, and sports intelligence were facilitated. From this perspective, the present study is in line with Kaur and Sharma (2013) [6] and Cratty (1972) [2].

This could be due to the fact that as athlete progress in the training he also develops the ability to perceive the things better, moreover as the training age progress an athlete also learn to visualize clearly perceive the things in a better manner and also improve his ability to understand the moments in a better manner. It is suggested that during mental practice, the same neuromotor pathways that are involved in the physical execution of a specific motor task are activated (Kosslyn, Ganis, & Thompson, 2001) [7]. The neuro-muscular co-ordination is better among advance level of players. Therefore, significant changes among advance players has been reported.

Conclusions

1. There were significant differences in Sports Intelligence among gymnastics players between the Beginner and Intermediate groups. It can be concluded that advance player has more Sports Intelligence than the beginner and intermediate players.

Educational implications

The finding of the study will help the Gymnastics players and coaches to understand the Sports Intelligence of Gymnastics players of each level i.e. (Beginner, Inter-mediate, and Advance) which will help to adopt the strategies to improve and the intervention program can be developed to enhance Sports Intelligence.

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