



Relationship of Intelligence and Need for Achievement with Performance of Volleyball Players at Various Levels of Participation

KEYWORDS

Intelligence, Need for achievement, volleyball players and performance

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ABSTRACT *The purpose of this study was to explore the relationship of Intelligence and need for achievement with different levels of participation of volleyball players further, to find out a comparative assessment of both variables i.e. Intelligence and Need for achievements among players participating at different level of competitions. 300 male volleyball players, comprising the sample of the study, including 100 from district, 100 from state and 100 from National level volleyball competitions with age range from 20 to 30 years were selected through purposive method of sampling from Haryana State. Raven's Progressive Matrices for Intelligence (1938) test and Deo Mohan's test for Need for Achievement. (1985) were administered to measure the Intelligence and need for achievement respectively. The Pearson's Product Movements Method for correlation and Analysis of Variance (ANOVA) test were applied for statistical treatment of data by the help of SPSS (11.5). A perusal of summary of results shows significant correlation between psychological variables and national level volleyball players. Further the F-ratio for the variable need for achievement was significant at 0.01 of probabilities level but it is insignificant in case of the level of intelligence of volleyball players at different level of participation.*

INTRODUCTION:

Psychology, as a behavioral science, has made a great contribution in the effort of coaches, trainers and physical education teachers to improve standards in sports. It has been no surprise to sports psychologist that European nations, such as Germany, have improved their performance in international sports competitions. These countries have recognized the importance of mental development as an accompaniment to physiological training. Similarly, the erstwhile Soviet Union and Czechoslovakia are examples of countries in which psychological trainings has become an essential part of the athletic conditioning regimen for all athletes.

The physical education teachers have long endeavored to measure and evaluate as well as to compare the intelligence of their students in physical activities. Having knowledge about the games like rules, regulations, dimensions, tactics and strategies is not enough, but how to make use of all these knowledge in actual game situation is called as a use of intelligence in a game. Since good intelligence tests designed for the purpose often require more time and effort to construct and standardize, the physical education teachers have mainly depended upon teacher made tests without understanding the importance of such tests. It is now increasingly, becoming essential to have more standardized tests in the field, as tests have wider application and meet the criteria of scientific authenticity. **Schmithals et al (1940,1962)** Relatively no intelligence test, in physical education, especially in hockey has been made available in literature. Different researchers undertook the relationship between General Intelligence Test and playing ability in different games including hockey. Their finding reveals insignificant relationship between General Intelligence and Hockey Playing Ability. Hence by undertaking the present investigation the research scholar attempts to make a sincere effort to study the relationship between specific intelligence and hockey playing ability. **Corbin (1967)** investigated the effect of mental practice on skill performance after exposing subjects to real performance of a novel motor skill. Results indicated mental practice to be effective in facilitating juggling performance in subjects having experienced controlled actual practice. **Start K B (1960)** studied relationship between intelligence and effect of mental practice on the performance of motor skill. He concluded that in motor test there was a significant improvement in the mean

average of final score than on the mean average of initial score of the group after mental practice. **Gupta (1966)** conducted a study entitled "Intelligence quotient of athletes and non-athletes". She concluded that non-athletes were definitely more intelligent than athletes.

According to Suinn Killy. (1976) three-time winner of Olympic gold medals reported that his one preparation for one race was to ski (the course) mentally. Suinn uses several techniques of sports psychology to enhance performance of course; the methods were tailored to meet the needs of each athlete. **Choudhary R. (2000)** conducted study on selected Psychological & Physiological variables on 160 Indian Judokas and to compare in different weight categories and in to different age groups. He concluded that significant difference was found between juniors and seniors in relation to Excellence, Power, Sensation, Independence, Success, Aggression, Affiliation, Achievement Motivation, State Anxiety, Trail Anxiety and sports competition anxiety. **Sangwan, R. K. (1989)** administered achievement motive test to 603 sprinters. The results revealed that high proficiency sprinters scored significantly higher on achievement motivation as compared to low proficiency and middle proficiency sprinters.

Recently, the role of psychological variables has been acknowledged in the performance. Various studies have reflected that players with high level of intelligence and motivation, farewell in different areas. Keeping in mind these potential relationships the present problem has been framed.

METHODOLOGY:

Three hundred male volleyball players, comprising the sample of the study, including 100 from district, 100 from state and 100 from National level volleyball competitions with age range from 20 to 30 years were selected through purposive method of sampling from Haryana State. **Raven's Progressive Matrices for Intelligence (1938) test and Deo Mohan's test for Need for Achievement. (1985)** were administered to measure the intelligence and need for achievement respectively. Karl Pearson's Product Movements Method for correlation and one way ANOVA to find out significant difference among groups were used by the help of SPSS (11.5) computer software.

RESULTS:

This study has been discussed in two sections. Section A deals with correlation between different levels of participation of volleyball players and psychological variables. Section B deals with the comparative assessment of psychological variables among players participating at different level of competitions.

Table No. 1: Correlation of Intelligence with Performance of Volleyball Players at different level of participation.

Sr. No.	Level of Participation	N	Means	Std. Deviations	Correlation with Performance
1.	District Level	100	43.06	2.798	0.104
2.	State Level	100	43.68	4.259	0.189**
3.	National Level	100	44.19	2.718	0.192**

Table No.1 results indicated that the calculated correlation of Intelligence with performance at district level of participation is not significant, whereas correlation of Intelligence with performance at state and National levels of participation is significant at .01 level of confidence. It implies that the level of intelligence at district level volleyball players participant are almost independent to each other, however at State and National players performance depends on their intelligence

Table No. -3: Summary of ANOVA for Intelligence

Group	Mean	SD	Source of Variation	Sum of Squares	Df	Mean Square	F	P
District level participant	43.06	2.798	Between Groups	64.047	2	32.023	2.88*	.06
State level participant	43.68	4.259	Within Groups	3302.390	297	11.119		
National level participant	44.19	2.718	Total	3366.437	299			

*Significant at 0.05 level (Table value for df2, 297 at .05 level of significant =3.02)

Table no. 3, Indicates clearly that the F-ratio for this variable comes to be 2.88, its a just borderline value (3.02) and falls little short to be significant at .05 level. Its probability is slightly

Table -4: Summary of ANOVA for Need for Achievement

Group	Mean	SD	Source of Variation	Sum of Squares	Df	Mean Square	F	P
District level participant	149.37	8.106	Between Groups	7407.487	2	3703.743	5.87**	.003
State level participant	155.63	2.525	Within Groups	187271.46	297	630.544		
National level participant	161.54	42.656	Total	194678.947	299			

**Significant at 0.01 level (Table value for df2, 297 at .01 level of significant = 4.67)

Table-4 clearly indicates the Mean, SD, and 'F' value of district, state and national levels volleyball players on need for achievement level. The calculated 'F' value is 5.87, which is greater than the required table value at 0.01 level of confidence. It shows that the groups (District, state and national levels) were differ significantly, players participating at national level competition (F ratio= 5.87, p<.01) has significantly higher need for achievement, followed by state level. F ratio and significant level for district level players was found to be lowest across group. It is also evident from mean and S.D. scores for national level participant (M= 149.37, S.D.= 8.106), for state level participant (M=155.63, S.D.=2.525) and for district level participant (M=161.54, S.D.=42.656).

DISCUSSION:

A perusal of summary of results shows that the correlations of both psychological variables i.e., intelligence and need for achievement had significant with national level volleyball

level.

Table -2: Correlation of Need for Achievement with performance of volleyball players at different level of participation.

Sr. No.	Level of Participation	N	Means	Std. Deviations	Correlation with Performance
1.	District Level	100	149.37	8.106	0.102
2.	State Level	100	155.63	2.525	0.130
3.	National Level	100	161.54	42.656	0.193**

** Significant at 0.01 level =.148 (N=300, df=298)

* Significant at 0.05 level =.113

It is evident from table-2 that the correlations of need for achievement had positive and significant at 0.01 level of confidence with national level volleyball players, whereas positive and insignificant relationship found with district and state level participant. It indicates that the need for achievement level effects more national level players performance, whereas slightly effects the district and state level performer.

higher than that required (e.g., .06). This non-significant F-value indicates that players performing at various levels do not differ in the level of their intelligence.

players, whereas insignificant relationship found with district and state level participant. Only intelligence significantly correlate with state level performers. It implies that the player performance at national level competitions depends upon the level both variables, whereas performance at district and state level competitions were slightly depends upon these two variables. It suggests that intelligence and need for achievement plays positive role in sports performance. The study domain of the present study implies that a intelligent person who aspire to do something creditable and excel in life tend to do well in sports also, particularly in the volleyball. The current evidence is very well supported by the studies of **Start (1962)** conducted a study on boys of a large English Grammar School. He found no statistically significant relation between games performance and either intelligence or streaming, **Kulcinski (1945)** found a positive relationship between intelligence and the learning of fundamental motor skills with elementary school age children, **Hart (1971)**

found no significant correlation between physical fitness and intelligence quotients, **Nesving, L.P. (1978)** on male and female gymnast, **William, N.M. (1982)** on the male and female swimmers, **Carron, et. al. (1977)** on Hockey players of Ontario University and **Maksimento, et.al. (1978)** on Participant of African Central Games at capital of Gabon.

The players performing at various levels (District, state and national levels) were not differs significantly in the level of their intelligence. This is in discordance in case of need for achievement where, the players participating at national level competition (F ratio= 5.87) has significantly higher need for achievement, followed by state level. F ratio and significant level for district level players was found to be lowest across group. These results clearly suggest that volleyball players participated at national level were more motivated to excel in sports and aimed to achieve something different and creditable. This motivation made them more competitive and ready to go higher and higher in their accomplishments. Similar findings were reported by **Ragsdale et al (1934)** and examined 155 junior high school boys in team sports skills and general intelligence. Intelligence was observed to be unimportant in the abilities tested, **Fox, R.G. (1978)** on the male and female Canadian swimmers, **Rough, et. al. (1987)** on male and female USA athletes, **Curry, et. al. (1989)** on North American and Australian athletes.

CONCLUSION:

The correlations of intelligence and need for achievement had positive and significant at 0.01 level of confidence with

national level volleyball players, whereas insignificant relationship found with district level players, however significant correlation found between intelligence and state level performer. It indicates that the player performance at national level competitions depends upon the intelligence as well as the need for achievement levels, whereas performance at district level competition was slightly depends upon these two variables.

The F-ratio for the variable need for achievement was significant at 0.01 of probabilities level but it is discordance in case of intelligence.

Hence, this study suggests that while selecting sports persons for such games, selectors should pay attention to their level of intelligence and need for achievement. Coaches and trainers should also use behavioral strategies and mental practice to boost intelligence and need for achievement among participating sportspersons, so that they can achieve their best level. Undoubtedly the role of intelligence in learning sport skills and strategies is acceptable one but it is not too important in players performance is observed.

David, W. (1985) "The aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with the environment."

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