

A COMPARATIVE ANALYSIS OF DECISION MAKING IN BASKETBALL PLAYERS

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ABSTRACT

The present study was aimed to identify the role of decision making in performance of basketball players. For this purpose of selection of the subjects around N=250 Female Basketball Players of 20-30 years of age group were chosen to act as subjects. The entire group of players were further sliced into three groups which include (N₁= 50 International Basketball Players; N₂= 100 Senior National level Basketball Players and N₃= 100 All India Inter-university level Basketball Players). The major aim of this sampling technique was to formulate the objectives of the study. One Way Analysis of Variance (ANOVA) were employed to compare the three groups of Basketball Players. Where 'F' values were found significant, Scheffe Post-hoc test were applied to find out the direction and degree of difference. For testing the hypotheses, the level of significance was set at 0.05. In a nutshell it can be said that from the findings that significant differences were found among Female International Basketball Players, Senior National Basketball Players and All India Interuniversity Basketball Players on the sub-variables; Thoroughness, Social Resistance, Instinctiveness and Decision Making (Total) ($p < 0.05$). However, no significant differences were found with regard to the sub-variables; Control, Hesitancy, Optimizing and Principled.

KEYWORDS: Decision Making, Basketball Players

INTRODUCTION

The selection of course of action among options is all that is important and necessary. This way one can identify and choose alternatives based on values and preferences. This process is nucleus of management and opens new vistas for implementation of the decision. The decision making is not confined to a single individual but to different coaches, referees, players and spectators etc. Different players take different decisions taking into consideration the circumstances and its outcome. The decision taken by a player on the spot encounters sports environment with familiar actions (Orasanu & Connolly, 1993). There is a great dissimilarity in decision making in the laboratory and the real world. Some internal as well as external dynamics come into play when situation itself changes. One can conclude that an element of variability must be kept in mind while studying sports decision. Decision making is an integral part of everyday life. It is related to time and situation. It is decision as a judgment and final resolution of conflicting needs (Johnson 2006). Decision making is an important aspect of all sciences based professions where specialist applies their technical know-how in a particular area. Decision making is like facing different degrees of uncertainty. This decision making reduces uncertainty and doubts. The decision making has different aspects of the thinking of the coach as autocratic, delegative and participation and it is found ultimately that the circumstances of decision making are colored by the attributes of the problem (Lopez, 1977). However, an athlete should be encouraged to make a decision by evaluating every option and to avoid mistakes which may not occur time and again. The coaching of an athlete is of paramount importance in this respect. The traditional style of coaching is generally disliked and questioned as it is not going to do any good to his performance nor will it sharpen his reflexes (Myers, 1962). It is well advised that a coach should never use directive style of coaching. If a coach is to answer every query or problem of the athlete, he will never learn to address issues himself. He needs to learn and practice

decision making. If this denied, he will not get the opportunity to learn and practice decision making. The coaches who use an athlete centered approach definitely have a good chance of developing athlete with self-awareness and hence can compete in the enhances determination (Voight, 2002). However decision making is more natural to certain athletes who can embark upon making their own decision. Those athletes who are not natural decision makers generally indulge in quality assessment. The decision making skill depend more on behaviour style and power to take more vital actions than others. But with the phenomenal and ever increasing popularity of psychological variables in the past few years, there is a lack of study on this particular discipline, for this purpose that the present study of Decision Making is proposed and undertaken using the sample from female basketball players.

SELECTION OF SUBJECTS

For this purpose of selection of the subjects around N=250 Female Basketball Players of 20-30 years of age group were chosen to acts as subjects. The entire group of players were further sliced into three group which include (N₁= 50 International Basketball Players; N₂= 100 Senior National level Basketball Players and N₃= 100 All India Inter-university level Basketball Players). The major aim of this sampling technique was to formulate the objectives of the study.

SELECTION OF VARIABLES

The availability of tools for investigation were given privacy and along with it the legitimate time was calculated which could be devoted for tests. The opinion of the experts was taken into consideration for the entire study. After due analysis of the criteria in mind following variables were selected for the present study.

DECISION MAKING

- Thoroughness
- Control
- Hesitancy
- Social Resistance
- Optimizing
- Principled
- Instinctiveness

SELECTION OF TOOLS

To measure the level of Decision Making of the subjects, the Decision Making Questionnaire constructed by French et al. (1993) was administered.

STATISTICAL TECHNIQUE EMPLOYED

One Way Analysis of Variance (ANOVA) were employed to compare the three groups of Basketball Players. Where 'F' values were found significant, Scheffe Post-hoc test were applied to find out the direction and degree of difference. For testing the hypotheses, the level of significance was set at 0.05.

RESULTS

Table-1

One Way Analysis of Variance (ANOVA) results among Female Basketball Players with Regard to Decision Making on the Sub-variable Thoroughness

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-Value	P-Value (Sig.)
Between Groups	450.52	2	225.26	15.171*	.000
Within Groups	3667.58	247	14.84		
Total	4118.10	249			

*Significant at 0.05

F0.05 (2,247)

Considering the level of significance at 0.05 table-1 depicts the significant differences regarding the sub-variable Thoroughness among the basketball players of different levels like International Level, Senior National Level and All India Interuniversity Level Basketball Players. The P-value (Sig.) being .000 which was significant as it was less than 0.05 ($p < 0.05$). As calculated F-value (**15.171***) was found to be significant, hence Scheffe's Post-hoc test was applied to analyze the direction and significance of difference between paired means among basketball players of different levels mentioned above on the sub-variable Thoroughness. The outcomes of Scheffe's Post-hoc test have been shown in table-2.

Table-2
Analysis of Scheffe's Post-hoc test among Female Basketball Players with Regard to Decision Making on the Sub-variable Thoroughness

Means		Mean Difference	P-value (Sig.)
International Level Basketball Players [14.74]	Senior National Level Basketball Players [17.30]	2.56*	.00
	All India Interuniversity Level Basketball Players [14.48]	.26	.92
Senior National Level Basketball Players [17.30]	International Level Basketball Players [14.74]	2.56*	.00
	All India Interuniversity Level Basketball Players [14.48]	2.82*	.00
All India Interuniversity Level Basketball Players [14.48]	International Level Basketball Players [14.74]	.26	.92
	Senior National Level Basketball Players [17.30]	2.82*	.00

Level of Significant at 0.05

The mean difference between International Level Basketball Players and Senior National Level Basketball Players was 2.56. The Senior National Level Basketball Players had demonstrated significantly better Thoroughness than the International Level Basketball Players as the P-value (Sig.) .00. The table also specified the mean difference between International Level Basketball Players and All India Interuniversity Level Basketball Players was .26 and the P-value (Sig.) being .92 proving International Level Basketball Players had exhibited better Thoroughness than their counterpart All India Interuniversity Level Basketball Players although not very significantly. Finally it was observed from the above table (table-2) that the mean difference between Senior National Level Basketball Players and All India Interuniversity Level Basketball Players was 2.82 and corresponding P-value (Sig.) .00 which established that Senior National Level Basketball Players had exhibited better Thoroughness than their counterpart All India Interuniversity Level Basketball Players.

Table-3
One Way Analysis of Variance (ANOVA) results among Female Basketball Players with Regard to Decision Making on the Sub-variable Control

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-Value	P-Value (Sig.)
Between Groups	66.38	2	33.19	2.089	.126
Within Groups	3923.78	247	15.88		
Total	3990.16	249			

*Significant at 0.05

F0.05 (2,247)

It became evident from table-3 given above that on the basis of One Way Analysis of Variance (ANOVA) among “Between Groups” and “Within groups” depicted the insignificant difference with regard to the sub-variable Control among female basketball players comprising of International Level, Senior National Level and All India Interuniversity Level Basketball Players since the P-value (Sig.) .126 was found greater than the 0.05 level of significance ($p > 0.05$). But the F-value (2.089) was found insignificant, therefore, Post-hoc test was not required.

Table-4

One Way Analysis of Variance (ANOVA) results among Female Basketball Players with Regard to Decision Making on the Sub-variable Hesitancy

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-Value	P-Value (Sig.)
Between Groups	48.97	2	24.48	2.25	.107
Within Groups	2678.64	247	10.84		
Total	2727.61	249			

*Significant at 0.05

F0.05 (2,247)

It became evident from table-4 given above that on the basis of One Way Analysis of Variance (ANOVA) among “Between Groups” and “Within groups” depicted the insignificant difference with regard to the sub-variable Hesitancy among female basketball players comprising of International Level, Senior National Level and All India Interuniversity Level Basketball Players since the P-value (Sig.) .107 was found greater than the 0.05 level of significance ($p > 0.05$). But the F-value (2.25) was found insignificant, therefore, Post-hoc test was not required.

Table-5

One Way Analysis of Variance (ANOVA) results among Female Basketball Players with Regard to Decision Making on the Sub-variable Social Resistance

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-Value	P-Value (Sig.)
Between Groups	83.21	2	41.60	5.833*	.000
Within Groups	1761.97	247	7.13		
Total	1845.18	249			

*Significant at 0.05

F0.05 (2,247)

Considering the level of significance at 0.05 table-5 depicts the significant differences regarding the sub-variable Social Resistance among the basketball players of different levels like International Level, Senior National Level and All India Interuniversity Level Basketball Players. The P-value (Sig.) being .000 which was significant as it was less than 0.05 ($p < 0.05$). As calculated F-value (5.833*) was found to be significant, hence Scheffe’s Post-hoc test was applied to analyze the direction and significance of difference between paired means among basketball players of different levels mentioned above on the sub-variable Social Resistance. The outcomes of Scheffe’s Post-hoc test have been shown in table-6.

Table-6

Analysis of Scheffe’s Post-hoc test among Female Basketball Players with Regard to Decision Making on the Sub-variable Social Resistance

Means		Mean Difference	P-value (Sig.)
International Level Basketball Players [10.38]	Senior National Level Basketball Players [10.20]	0.18	.92
	All India Interuniversity Level	1.29*	.02

	Basketball Players [9.79]		
Senior National Level Basketball Players [10.20]	International Level Basketball Players [10.38]	0.18	.92
	All India Interuniversity Level Basketball Players [9.79]	1.11*	.01
All India Interuniversity Level Basketball Players [9.79]	International Level Basketball Players [10.38]	1.29*	.02
	Senior National Level Basketball Players [10.20]	1.11*	.01

Level of Significant at 0.05

The mean difference between International Level Basketball Players and Senior National Level Basketball Players was .18 and the P-value (Sig.) being .92 proving International Level Basketball Players had exhibited better Social Resistance than their counterpart All India Interuniversity Level Basketball Players although not very significantly. The table also specified the mean difference between International Level Basketball Players and All India Interuniversity Level Basketball Players was 1.29 and corresponding P-value (Sig.) .02 which established International Level Basketball Players had exhibited better Social Resistance than their counterpart All India Interuniversity Level Basketball Players. Finally it was observed from the above table (table-6) that the mean difference between Senior National Level Basketball Players and All India Interuniversity Level Basketball Players was 1.11 and corresponding P-value (Sig.) .01 which established Senior National Level Basketball Players had exhibited better Social Resistance than their counterpart All India Interuniversity Level Basketball Players.

Table-7

One Way Analysis of Variance (ANOVA) results among Female Basketball Players with Regard to Decision Making on the Sub-variable Optimizing

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-Value	P-Value (Sig.)
Between Groups	5.15	2	2.57	.446	.64
Within Groups	1426.95	247	5.77		
Total	1432.10	249			

*Significant at 0.05

F0.05 (2,247)

It became evident from table-7 given above that on the basis of One Way Analysis of Variance (ANOVA) among "Between Groups" and "Within groups" depicted the insignificant difference with regard to the sub-variable Optimizing among female basketball players comprising of International Level, Senior National Level and All India Interuniversity Level Basketball Players since the P-value (Sig.) .64 was found greater than the 0.05 level of significance ($p > 0.05$). But the F-value (.446) was found insignificant, therefore, Post-hoc test was not required.

Table- 8

One Way Analysis of Variance (ANOVA) results among Female Basketball Players with Regard to Decision Making on the Sub-variable Principled

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-Value	P-Value (Sig.)
Between Groups	3.70	2	1.85	.369	.69
Within Groups	1241.16	247	5.02		
Total	1244.86	249			

*Significant at 0.05

F0.05 (2,247)

It became evident from table-8 given above that on the basis of One Way Analysis of Variance (ANOVA) among “Between Groups” and “Within groups” depicted the insignificant difference with regard to the sub-variable Principled among female basketball players comprising of International Level, Senior National Level and All India Interuniversity Level Basketball Players since the P-value (Sig.) .69 was found greater than the 0.05 level of significance ($p > 0.05$). But the F-value (.369) was found insignificant, therefore, Post-hoc test was not required.

Table-9

One Way Analysis of Variance (ANOVA) results among Female Basketball Players with Regard to Decision Making on the Sub-variable Instinctiveness

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-Value	P-Value (Sig.)
Between Groups	45.26	2	22.63	3.343*	.037
Within Groups	1672.08	247	6.77		
Total	1717.34	249			

*Significant at 0.05

F0.05 (2,247)

Considering the level of significance at 0.05 table-9 depicts the significant differences regarding the sub-variable Instinctiveness among the basketball players of different levels like International Level, Senior National Level and All India Interuniversity Level Basketball Players. The P-value (Sig.) being .037 which was significant as it was less than 0.05 ($p < 0.05$). As calculated F-value (**3.343***) was found to be significant, hence Scheffe’s Post-hoc test was applied to analyze the direction and significance of difference between paired means among basketball players of different levels mentioned above on the sub-variable Instinctiveness. The outcomes of Scheffe’s Post-hoc test have been shown in table-10.

Table-10

Analysis of Scheffe’s Post-hoc test among Female Basketball Players with Regard to Decision Making on the Sub-variable Instinctiveness

Means		Mean Difference	P-value (Sig.)
International Level Basketball Players [7.60]	Senior National Level Basketball Players [8.74]	1.14*	.04
	All India Interuniversity Level Basketball Players [8.54]	.94	.11
Senior National Level Basketball Players [8.74]	International Level Basketball Players [7.60]	1.14*	.04
	All India Interuniversity Level Basketball Players [8.54]	.20	.86
All India Interuniversity Level Basketball Players [8.54]	International Level Basketball Players [7.60]	.94	.11
	Senior National Level Basketball Players [8.74]	.20	.86

Level of Significant at 0.05

The mean difference between International Level Basketball Players and Senior National Level Basketball Players was 1.14. The Senior National Level Basketball Players had demonstrated significantly better Instinctiveness than the International Level Basketball Players as the P-value (Sig.) .04. The table also specified the mean difference between International Level Basketball Players and All India Interuniversity Level Basketball Players

was .94 and the P-value (Sig.) being .11 proving that the All India Interuniversity Level Basketball Players had exhibited better Instinctiveness than their counterpart Senior National Level Basketball Players although not very significantly. Finally it was observed from the above table (table-10) that the mean difference between Senior National Level Basketball Players and All India Interuniversity Level Basketball Players was .20 and the P-value (Sig.) being .86 proving that the Senior National Level Basketball Players had exhibited better Instinctiveness than their counterpart All India Interuniversity Level Basketball Players although not very significantly.

Table-11
One Way Analysis of Variance (ANOVA) results among Female Basketball Players with Regard to the Variable Decision Making (Total)

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-Value	P-Value (Sig.)
Between Groups	2252.89	2	1126.44	10.975*	.000
Within Groups	25351.06	247	102.63		
Total	27603.95	249			

*Significant at 0.05

F0.05 (2,247)

Considering the level of significance at 0.05 table-11 depicts the significant differences regarding the variable Decision Making (Total) among the basketball players of different levels like International Level, Senior National Level and All India Interuniversity Level Basketball Players. The P-value (Sig.) being .000 which was significant as it was less than 0.05 ($p < 0.05$). As calculated F-value (**10.975***) was found to be significant, hence Scheffe's Post-hoc test was applied to analyze the direction and significance of difference between paired means among basketball players of different levels mentioned above on the variable Decision Making (Total). The outcomes of Scheffe's Post-hoc test have been shown in table-12.

Table-12
Analysis of Scheffe's Post-hoc test among Female Basketball Players with Regard to the Variable Decision Making (Total)

Means		Mean Difference	P-value (Sig.)
International Level Basketball Players [71.38]	Senior National Level Basketball Players [77.94]	6.56*	.00
	All India Interuniversity Level Basketball Players [72.06]	.68	.92
Senior National Level Basketball Players [77.94]	International Level Basketball Players [71.38]	6.56*	.00
	All India Interuniversity Level Basketball Players [72.06]	5.88*	.00
All India Interuniversity Level Basketball Players [72.06]	International Level Basketball Players [71.38]	.68	.92
	Senior National Level Basketball Players [77.94]	5.88*	.00

Level of Significant at 0.05

The mean difference between International Level Basketball Players and Senior National Level Basketball Players was 6.56. The Senior National Level Basketball Players had demonstrated significantly better Decision Making (Total) than the International Level Basketball Players as the P-value (Sig.) .00. The table also specified the mean difference

between International Level Basketball Players and All India Interuniversity Level Basketball Players was .68 and the P-value (Sig.) being .92 proving that the All India Interuniversity Level Basketball Players had exhibited better Decision Making (Total) than their counterpart International Level Basketball Players although not very significantly. Finally it was observed from the above table (table-12) that the mean difference between Senior National Level Basketball Players and All India Interuniversity Level Basketball Players was 5.88. The Senior National Level Basketball Players had demonstrated significantly better Decision Making (Total) than the International Level Basketball Players as the P-value (Sig.) .00.

DISCUSSION OF RESULTS

Before embarking upon the discussion of results, it is quite significant to point out the differences that exist in Decision Making among the female basketball players of different levels. Findings of Analysis of Variance (ANOVA) tables in respect of decision making expressed significant difference among female basketball players at different levels on the sub-variables i.e. Thoroughness, Social Resistance, Instinctiveness and overall decision making. It is clearly illustrated from the tables 1 to 2 that significant differences have been found among female basketball player at different levels with regard to the variable thoroughness. This sub-variable indicated that senior national level basketball players had demonstrated significantly better strength as compare to their counterpart at the International and All India Interuniversity basketball players. It will not be out of place to mention that well planned logical decision making during the time of competition helped greatly the players at the Senior National Level than the International and All India Interuniversity basketball players. It may be due to the principle of proper organization. These findings amply proves the assertion flaming et al. (2010) significant difference between Philippines and united state students on the variable decision making. Dureja and Singh (2011) reached conclusion that physical education student have better decision making level as compare to psychological students.

From the tables 5 to 6 it has been found that female basketball player (International, Senior and All India Interuniversity level) have quite significant differences on the sub-variable social resistance. The study observed that Senior National basketball players demonstrated significantly better on social resistance as compare to their opponent at the International and All India Interuniversity player. The resultant could be due to the relax, clam make up once mind helped in defeating their opponents. Sub-variable Instinctiveness finds through tables 9 to 10 that their remains significant differences among female basketball players (International Level, Senior National Level and All India Interuniversity Level Basketball Players). The mean values of all the groups, involved point out that Senior National Level Basketball Players had demonstrated significantly better Instinctiveness as compared to their counterpart International Level and All India Interuniversity Level Basketball Players. It has been synthesized that the resultant might be because of relaxed, calm and reaching conclusion quite quickly. The allurements and provocation might make players stick to their decision and remain firm under all circumstances. Taking into consideration tables 11 to 12 significant differences have been found among female basketball players at different levels in respect of the variable decision making (Total). The mean value of all the groups concluded that Senior National basketball players demonstrated better physical and technical strength as compare to their counterpart at International Level and All India Interuniversity Level Basketball Players. Bal et al. (2014) finds individual players has low superstitious belief and better decision making level as compared to their counterpart dual and team sport players. Robson (2005) found out that superstitions and rituals are an attempt to manipulate fate and act as psychological influence on the athletes.

Conversely, no significant differences have been observed on the sub-variables; Control, Hesitancy, Optimizing and Principled among Female Basketball Players

(International Level Basketball Players, Senior National Level Basketball Players and All India Interuniversity Level Basketball Players). In calculating the mean values of all the groups, it was observed that Senior National Level basketball players had demonstrated significantly better control, hesitancy and principled as compared to their counterpart International Level and All India Interuniversity Level basketball players. The findings of Kaya (2014) suggested that decision-making is a basic elements of any sport, especially fast, dynamic, open team sports. He also identifies the methods apply to study decisions in sports by typically focusing on coaches and athletes. Similar views have been reported by Johnson (2006) wherein he concluded that greatly in decision making than any other feature concerning particular sports.

PRACTICAL APPLICATION

The study will be considerably helpful to comprehend the Decision Making in Basketball Performance. The sports psychologists and coaches working with these areas will drive benefit from the findings of the present research and they can integrate the Decision Making in their training schedule from the very initial stages.

CONCLUSIONS OF THE STUDY

Summarizing from the above findings we can say that significant differences were observed among Female International Basketball Players, Senior National Basketball Players and All India Interuniversity Basketball Players on the sub-variables; Thoroughness, Social Resistance, Instinctiveness and Decision Making (Total). No significant differences were found with regard to the sub-variables; Control, Hesitancy, Optimizing and Principled.

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