

An Analysis of the Components of Sport Imagery in Basketball Players

Nishan Singh Deol

Department of Physical Education, Punjabi University, Patiala, India

Davinder Singh

Department of Physical Education, D.A.V. College, Amritsar, India

Tel: 91-98558-10848 E-mail: ds_rajput87@yahoo.in

Received: November 6, 2015 Accepted: January 17, 2016 Published: January 18, 2016

doi:10.5296/elr.v2i1.8894 URL: <http://dx.doi.org/10.5296/elr.v2i1.8894>

Abstract

The present study was aimed to identify the role of Sport Imagery in performance of basketball players. For this purpose, sixty female basketball players of 19 to 25 years of age were selected. They were divided into three groups; (i.e., $N_1=20$; District, $N_2=20$; State and $N_3=10$ National). To determine level of Sport Imagery among subjects, Sport Imagery Questionnaire, constructed by Hall et al. (1998) was administered. One Way Analysis of Variance (ANOVA) was employed to compare the three groups of basketball. For testing the hypotheses, the level of significance was set at 0.05. Concludingly from the findings that we can say that significant differences were found among female basketball players (District, State and National) on the sub-variables of Sport Imagery.

Keywords: Sport imagery, Basketball players

1. Introduction

Empirical Research Findings shows that Imagery is a part of Sport Psychology Skill, where it effect to athletes to success in their tournament or game. Murphy and Martin (2002), said imagery that have better in relationship between imagery ability and sport performance. Sport imagery can be defined as using all sense to recreate or create a sport experience in the mind with the goal of enhancing sport performance during training and competition (Morris et al., 2005; Taylor & Wilson, 2005; Weinberg & Gould, 2007). The athlete's use of an internal versus external imagery point of view is also connected with sport performance (Gould et al.,

2002; Murphy, 1994; Weinberg & Gould, 2007). The mishmash of external imagery perspective with kinesthetic imagery is confidentially related to performance improvement (Hardy & Callow, 1999). Research regarding differences in imagery use between athletes who differ in age is plentiful. For example, boys and girls can and do use imagery in sport and dance settings (e.g., Afremow et al., 1997). Gregg et al. (2005) observed imagery ability prejudiced the connection between imagery use and athletics task. Sports Persons at Peak competitive levels use more imagery than those at lower levels or those which less experience (e.g., Barr & Hall, 1992, Cumming & Hall, 2002a, 2002b). While considering the paramount importance of psychological variables with regard to combat sports the investigators focused to analyze the major role of sport imagery in elite basketball performance.

2. Methods

2.1 Participants

For this purpose, sixty female basketball players of 19 to 25 years of age were selected. They were divided into three groups; (i.e., $N_1=20$; District, $N_2=20$; State and $N_3=10$ National).

2.2 Tools

Sr. No	Tools	Authors	Year
1.	Sport Imagery Questionnaire	Hall et al.	(1998)

3. Statistical Analysis

One Way Analysis of Variance (ANOVA) was employed to compare the three groups of basketball. For testing the hypotheses, the level of significance was set at 0.05.

4. Results

Table 1. Significant differences in the results among Female Basketball Players with regard to Sport Imagery on the sub-variable Cognitive Specific

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	15.16	2	7.58	10.73	.000
Within Groups	33.19	47	.70		
Total	48.36	49			

*Significant at 0.05.

It can be seen from Table 1 that significant differences were found with regard to the sub-parameter Cognitive Specific among basketball players as the P-value (Sig.) .000 was found smaller than 0.05 level of significance ($p<0.05$). Since the obtained F-value was found significant, therefore, least significant difference (Scheffe's) Post-hoc test was employed to study the direction and significance of difference between paired means among basketball players on the sub-parameter Cognitive Specific. The results of LSD Post-hoc test have been presented in Table 2.

Table 2. Analysis of Least Significant Difference (Scheffe's post-hoc) post hoc test among Female Basketball Players with regard to Sport Imagery on the sub-variable Cognitive Specific

Means		Mean Difference	P-value (Sig.)
District Level Basketball Players [4.65]	State Level Basketball Players [5.68]	1.03*	.001
	National Level Basketball [4.42]	.22	.784
State Level Basketball Players [5.68]	District Level Basketball Players [4.65]	1.03*	.001
	National Level Basketball [4.42]	1.26*	.001
National Level Basketball [4.42]	District Level Basketball Players [4.65]	.22	.784
	State Level Basketball Players [5.68]	1.26*	.001

*Significant at 0.05.

1) It has been observed from the Table 2 that mean difference between District and State Level female basketball players was found 1.03. The P-value (Sig.) .001 showed that the State Level Basketball Players had demonstrated significantly better Cognitive Specific than their counterpart District Level Basketball Players.

2) The mean difference between District and National level female basketball players was found .22. The P-value (Sig.) .784 revealed that District level basketball players had exhibited better Cognitive Specific though not significantly than their counterpart National level female basketball players.

3) The mean difference between state and national level female basketball players was found 1.26. The P-value (Sig.) .001 showed that the State Level Basketball Players had demonstrated significantly better Cognitive Specific than their counterpart National Level Basketball Players.

Table 3. Significant differences in the results among Female Basketball Players with regard to Sport Imagery on the sub-variable Cognitive General

Source of Variation	Sum of Squares	of Degree of Freedom	of Mean Square	F-value	P-value (Sig.)
Between Groups	9.89	2	4.94	6.19	.004
Within Groups	37.56	47	.79		
Total	47.46	49			

*Significant at 0.05.

It can be seen from Table 3 that significant differences were found with regard to the sub-parameter Cognitive General among basketball players as the P-value (Sig.) .004 was found smaller than 0.05 level of significance ($p < 0.05$). Since the obtained F-value was found significant, therefore, least significant difference (Scheffe's) Post-hoc test was employed to study the direction and significance of difference between paired means among basketball players on the sub-parameter Cognitive General. The results of LSD Post-hoc test have been presented in Table 4.

Table 4. Analysis of Least Significant Difference (Scheffe's post-hoc) post hoc test among Female Basketball Players with regard to Sport Imagery on the sub-variable Cognitive General

Means				Mean Difference	P-value (Sig.)
District Level Basketball Players [4.53]		State Level Basketball Players [5.29]		.75*	.035
		National Level Basketball [4.19]		.34	.620
State Level Basketball Players [5.29]		District Level Basketball Players [4.53]		.75*	.035
		National Level Basketball [4.19]		1.09*	.010
National Level Basketball [4.19]		District Level Basketball Players [4.53]		.34	.620
		State Level Basketball Players [5.29]		1.09*	.010

*Significant at 0.05.

1) It has been observed from the Table 4 that mean difference between District and State Level female basketball players was found .75. The P-value (Sig.) .035 showed that the State Level Basketball Players had demonstrated significantly better Cognitive General than their counterpart District Level Basketball Players.

2) The mean difference between District and National level female basketball players was found .34. The P-value (Sig.) .62 revealed that District level basketball players had exhibited better Cognitive General though not significantly than their counterpart National level female basketball players.

3) The mean difference between State and National Level Female Basketball Players was found 1.09. The P-value (Sig.) .010 showed that the State Level Basketball Players had demonstrated significantly better Cognitive General than their counterpart National Level Basketball Players.

Table 5. Significant differences in the results among Female Basketball Players with regard to Sport Imagery on the sub-variable Motivational Specific

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	15.73	2	7.86	6.13	.004
Within Groups	60.27	47	1.28		
Total	76.00	49			

*Significant at 0.05.

It can be seen from Table 5 that significant differences were found with regard to the sub-parameter Motivational Specific among basketball players as the P-value (Sig.) .004 was found smaller than 0.05 level of significance ($p < 0.05$). Since the obtained F-value was found significant, therefore, least significant difference (Scheffe's) Post-hoc test was employed to study the direction and significance of difference between paired means among basketball players on the sub-parameter Motivational Specific. The results of LSD Post-hoc test have been presented in Table 6.

Table 6. Analysis of Least Significant Difference (Scheffe's post-hoc) post hoc test among Female Basketball Players with regard to Sport Imagery on the sub-variable Motivational Specific

Means	Mean Difference	P-value (Sig.)
District Level Basketball Players [4.71]	State Level Basketball Players [5.62]	.91* .049
	National Level Basketball [4.20]	.51 .513
State Level Basketball Players [5.62]	District Level Basketball Players [4.71]	.91* .049
	National Level Basketball [4.20]	1.42* .009
National Level Basketball [4.20]	District Level Basketball Players [4.71]	.51 .513
	State Level Basketball Players [5.62]	1.42* .009

*Significant at 0.05.

1) It has been observed from the table-6 that mean difference between District and State Level Female Basketball Players was found .91. The P-value (Sig.) .049 showed that the State Level Basketball Players had demonstrated significantly better Motivational Specific than their counterpart District Level Basketball Players.

2) The mean difference between District and National Level Female Basketball Players was found .51. The P-value (Sig.) .513 revealed that District level basketball players had exhibited better Motivational Specific though not significantly than their counterpart National level female basketball players.

3) The mean difference between State and National Level Female Basketball Players was found 1.42. The P-value (Sig.) .009 showed that the State Level Basketball Players had demonstrated significantly better Motivational Specific than their counterpart National Level Basketball Players.

Table 7. Significant differences in the results among Female Basketball Players with regard to Sport Imagery on the sub-variable Motivational General-Arousal

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	9.71	2	4.85	10.33	.000
Within Groups	22.10	47	.47		
Total	31.82	49			

*Significant at 0.05.

It can be seen from Table 7 that significant differences were found with regard to the sub-parameter Motivational Specific among basketball players as the P-value (Sig.) .000 was found smaller than 0.05 level of significance ($p < 0.05$). Since the obtained F-value was found significant, therefore, least significant difference (Scheffe's) Post-hoc test was employed to study the direction and significance of difference between paired means among basketball players on the sub-parameter Motivational General-Arousal. The results of LSD Post-hoc test have been presented in Table 8.

Table 8. Analysis of Least Significant Difference (Scheffe's post-hoc) post hoc test among Female Basketball Players with regard to Sport Imagery on the sub-variable Motivational General-Arousal

Means	Mean Difference	P-value (Sig.)
District Level Basketball Players [4.94]	State Level Basketball Players [4.12]	.81*
	National Level Basketball [5.16]	.22
State Level Basketball Players [4.12]	District Level Basketball Players [4.94]	.81*
	National Level Basketball [5.16]	1.03*
National Level Basketball [5.16]	District Level Basketball Players [4.94]	.22
	State Level Basketball Players [4.12]	1.03*

*Significant at 0.05.

1) It has been observed from the Table 8 that mean difference between District and State Level Female Basketball Players was found .81. The P-value (Sig.) .002 showed that the District Level Basketball Players had demonstrated significantly better Motivational Specific than their counterpart State Level Basketball Players.

2) The mean difference between District and National Level Female Basketball Players was found .22. The P-value (Sig.) .709 revealed that National Level Basketball Players had exhibited better Motivational Specific though not significantly than their counterpart District Level Female Basketball Players.

3) The mean difference between State and National Level Female Basketball Players was found 1.03. The P-value (Sig.) .001 showed that the National Level Basketball Players had demonstrated significantly better Motivational Specific than their counterpart State Level Basketball Players.

Table 9. Significant differences in the results among Female Basketball Players with regard to Sport Imagery on the sub-variable Motivational General-Mastery

Source of Variation	Sum of Squares	of Degree of Freedom	of Mean Square	F-value	P-value (Sig.)
Between Groups	25.23	2	12.61	13.74	.000
Within Groups	43.14	47	.91		
Total	68.38	49			

*Significant at 0.05.

It can be seen from Table 9 that significant differences were found with regard to the sub-parameter Motivational General-Mastery among basketball players as the P-value (Sig.) .000 was found smaller than 0.05 level of significance ($p < 0.05$). Since the obtained F-value was found significant, therefore, least significant difference (Scheffe's) Post-hoc test was employed to study the direction and significance of difference between paired means among basketball players on the sub-parameter Motivational General-Mastery. The results of LSD Post-hoc test have been presented in Table 10.

Table 10. Analysis of Least Significant Difference (Scheffe's post-hoc) post hoc test among Female Basketball Players with regard to Sport Imagery on the sub-variable Motivational General-Mastery

Means			Mean Difference	P-value (Sig.)
District Level Basketball Players [5.12]	State Level Basketball Players [4.24]		.87*	.021
	National Level Basketball [6.16]		1.04*	.026
State Level Basketball Players [4.24]	District Level Basketball Players [5.12]		.87*	.021
	National Level Basketball [6.16]		1.91*	.000
National Level Basketball [6.16]	District Level Basketball Players [5.12]		1.04*	.026
	State Level Basketball Players [4.24]		1.91*	.000

*Significant at 0.05.

1) It has been observed from the Table 10 that mean difference between District and State Level Female Basketball Players was found .87. The P-value (Sig.) .021 showed that the District Level Basketball Players had demonstrated significantly better Motivational General-Mastery than their counterpart State Level Basketball Players.

2) The mean difference between District and National Level Female Basketball Players was found 1.04. The P-value (Sig.) .026 revealed that the National Level Basketball Players had demonstrated significantly better Motivational General-Mastery than their counterpart District Level Basketball Players.

3) The mean difference between State and National Level Female Basketball Players was found 1.91. The P-value (Sig.) .000 showed that the National Level Basketball Players had demonstrated significantly better Motivational General-Mastery than their counterpart State Level Basketball Players.

Table 11. Significant differences in the results among Female Basketball Players with regard to Sport Imagery on the sub-variable Sport Imagery (Total)

Source of Variation	Sum of Squares	of Degree of Freedom	of Mean Square	F-value	P-value (Sig.)
Between Groups	340.11	2	170.05	16.11	.000
Within Groups	495.87	47	10.55		
Total	835.98	49			

*Significant at 0.05.

It can be seen from Table 11 that significant differences were found with regard to the Sport Imagery (Total) among basketball players as the P-value (Sig.) .000 was found smaller than 0.05 level of significance ($p < 0.05$). Since the obtained F-value was found significant, therefore, least significant difference (Scheffe's) Post-hoc test was employed to study the direction and significance of difference between paired means among basketball players on the sub-parameter Sport Imagery (Total). The results of LSD Post-hoc test have been presented in Table 12.

Table 12. Analysis of Least Significant Difference (Scheffe's post-hoc) post hoc test among Female Basketball Players with regard to Sport Imagery on the sub-variable Sport Imagery (Total)

Means					Mean Difference	P-value (Sig.)
District Level Players [23.97]	Basketball	State Level Players [21.19]	Basketball		2.77*	.033
		National Level [28.31]	Basketball		4.34*	.005
State Level Players [21.19]	Basketball	District Level Players [23.97]	Basketball		2.77*	.033
		National Level [28.31]	Basketball		7.12*	.000
National Level [28.31]	Basketball	District Level Players [23.97]	Basketball		4.34*	.005
		State Level Players [21.19]	Basketball		7.12*	.000

*Significant at 0.05.

1) It has been observed from the Table 12 that mean difference between District and State Level Female Basketball Players was found .2.77. The P-value (Sig.) .033 showed that the District Level Basketball Players had demonstrated significantly better Sport Imagery (Total) than their counterpart State Level Basketball Players.

2) The mean difference between District and National Level Female Basketball Players was found 4.34. The P-value (Sig.) .005 revealed that the National Level Basketball Players had demonstrated significantly better Sport Imagery (Total) than their counterpart District Level Basketball Players.

3) The mean difference between State and National Level Female Basketball Players was found 7.12. The P-value (Sig.) .000 showed that the National Level Basketball Players had demonstrated significantly better Sport Imagery (Total) than their counterpart State Level Basketball Players.

5. Conclusion

Concludingly from the above research findings we can say that significant differences were found among female basketball players (District, State and National) on the sub-variables of Sport Imagery.

References

- Afremow, J., Overby, L.R., L.Y., & Vadoc, Z. E. (1997). Using mental imagery to enhance sports and dance skill of children. *Journal of the International Council for Health, Physical Education, Recreation, Sport and Dance*, 33, 44-48.
- Barr, K., & Hall, C. (1992). The use of Imagery by Rowers. *International Journal of Sport Psychology*, 23, 243-261.
- Cumming, J., & Hall, C. (2002b). Deliberate imagery practice: The development of imaginary skills in competitive athletes. *Journal of Sports Sciences*, 20, 137-145. <http://dx.doi.org/10.1080/026404102317200846>
- Cumming, J., & Hall, C. (2002B). Athletes' use of imagery in the off-season. *The Sport Psychology*, 16, 160-172.
- Gould, D., Damarjian, N., & Greenleaf, C. (2002). Imagery Training for Peak Performance. In J. L. Van Raalte, & B. W. Brewer (Ed.), *Exploring sport and exercise psychology* (pp. 49-75), Washington, DC: American Psychology Association. <http://dx.doi.org/10.1037/10465-004>
- Gregg, M., Hall, C., & Nederhof, E. (2005). The imagery ability, imagery use, and performance relationship. *The Sport Psychologist*, 19, 93-99.
- Hall, C. R., Mack, D., Paivio, A., & Hausenblas, H. A. (1998). Imagery Use by Athletes: Development of the Sport Imagery Questionnaire. *International Journal of Sport Psychology*, 29, 73-89.
- Hardy, L., & Callow, N. (1999). Efficacy of External and Internal Visual Imagery Perspectives for the Enhancement of performance on Tasks in which form is Important. *Journal of Sport and Exercise Psychology*, 21, 95-112.
- Morris, T., Spittle, M., & Watt, A. P. (2005). Technical Aids to Imagery. In *Imagery in Sport* (pp. 237-266). Champaign, IL: Human Kinetics.
- Murphy, S. M. (1994). Imagery Interventions in Sport. *Medicine and Science in Sports and Exercise*, 26, 486-494. <http://dx.doi.org/10.1249/00005768-199404000-00014>
- Murphy, S., & Martin, K. A. (2002). The use of imagery in sport. In T. Horn (Ed.), *Advances in sport psychology* (2nd ed., pp. 405-439). Campaign, IL: Human Kinetics.
- Taylor, J., & Wilson, G. (2005). *Applying Sport Psychology: Four Perspectives* (pp. 117-134). Champaign, IL: Human Kinetics. <http://dx.doi.org/10.1016/j.psychsport.2004.11.001>
- Weinberg, R., & Gould, D. (2007). *Foundations of Sport ad Exercise Psychology* (4th ed., pp. 296-317). Champaign, IL: Human Kinetics.
- Weinberg, R., & Gould, D. (2007). *Imagery. Foundations of Sport and Exercise Psychology* (pp. 295-321). Champaign, IL: Human Kinetics.

Copyright Disclaimer

Copyright reserved by the author(s).

This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/3.0/>).