An Assessment on Locus of Control and Athletic Identity among National Level Basketball Players

Dr. Binu George Varghese[1], Diya Varghese[2]

[1]Director, SPESS, M.G.U, Kottayam, Kerala

[2]PET, Govt. HSS, Kadaiyruppu, Ernakulam

Abstract: *The spirit of sports gives each of us who participate an opportunity to be creative. Sports know no sex, age, race or religion. Sports give us all the abilities to test ourselves mentally physically and emotionally in a way no other aspect of life can. The purpose of the study was to investigate the locus of control and athletic identity among the national level basketball players. The data for the study comprised of 381 national and state level basketball players between the age group of 15 to 35 participated in youth junior and senior national championship between 2011 to 2014. To achieve the purpose of the study 157 no. of boys 224 no. of girls whole heartedly participated during their participation in national championship approved by basketball federation of India. The average age of the students were under 16 in youth, under 18 in junior, and above in senior. The data for this study collected from the sample with the locus of control scale (LOC; Rotter, 1996)(to assess internal and external locus of control) and Athletic identity measurements scale (AIMS) (to assess athletic identity) (Brewer,Van Rallte&Linder,1993)It was hypothesized that Male basketball players will have a better locus of control than the female basketball players and there will be gender difference in terms of athletic identity among the basketball players. The data pertaining to the locus of control and athletic identity was tested using multivariate Analysis of Variance (MANOVA) and Analysis of variance (ANOVA) for analyzing the differences exist between grouping variables. The ANOVA results reveals that the dependent variables athletic identity found significant differ between groups viz.; youth, junior and senior and No significant difference were found between gender and group (youth, junior and senior) of Basketball players on locus of control.*

Keywords: Basketball Players, Locus of Control, Athletic Identity

1. Introduction

Understanding and enhancing sports performance is an important goal for sports psychologists, coaches, trainer and athletes themselves. Considerable research has focused on the prior psychological state of the athlete as a predictor of subsequent sport performance. Finding effects of the factor, superstitious beliefs will enable the player to deliver an objectively better performance during games. Locus of control is one of the most researched and still appealing areas of constructs personality, since the mid 1960's. There have been studies concerning Locus of control. Locus of control has been applied to many other interpersonal and intrapsychic areas such as seeking information, taking political action defensive externality and attribution respectively. There has been various controversies surrounding locus of control regardless of its appeal and explanatory nature. One among them is regarding the content validity of the way in which the phenomena is operationally defined. (Rotter 1975). The measurement procedures used in the process has been criticized on the basis of the full range of social context, political, social, academic, business etc. in the areas the working of locus of control was criticized as not sample adequately. The second controversy is related to the predictive powers, where most of claims circulate around the fact that the extent of predictive powers of Locus of control are extended up to the assessment of expectancies to particular social arenas. There has been diverse and multitudes when it comes to the definition of Locus of control, generally it stand for the belief weather rewards are the result of one's own actions and divisions or, a product of some internal entity or force. This brings us to the concept of internal and external locus of control. Internal locus of control is the belief that reinforces ones physical efforts decides ones victory and

intern improve physical and mutual health. The thought that victory and achievements are result of sheer hard work and dedication reinforces this ideology. On the other hand, an internal locus of control depends rewards as result of some unknown, yet present internal for such as luck, fate or actions of powerful other individuals. External locus of control leads to dysfunctional behavior, psychological distress and poor mental and physical health, extreme situations leads to depression and anxiety disorders.

Athletic identity is the degree to which an individual's identities herself/himself with an athlete's role (Brewer,Van Raalte&Linder,1993). The athletic identity can be characterized as a good indicator since it shows the way in which one's athletic involvement and experience can psychologically and cognitively affect the individual It can help determine one's changes and acceptance of certain beliefs throughout his or her entire athlete career (Millar, Melnick, Barnes, Sabo & farrell,2005;Millar,2009). Moreover, athletic identity as a self-concept can define the way in which an individual evaluates his or her competence and worth (Richards & Aries,1999). The amount of worth and competence an individual places on self- concept may influence their self-esteem. affect and motivation (Brewer et al.,1993).Weiss and Horn (1990) supported that a positive self-concept facilities the attainment motivational orientation (eg.,task-or ego orientation,or both). Tusak ,Gaganel and Bednarik (2005) found significant correlations between personality and motivational characteristics(winorientation, competitiveness and competitive motivation) and athletic identity in athletes. Another study reveals that a strong identification with the athletic role contributes to negative self-perceptions concerning social relations (Hughes &Coakley, 1991).

2. Methodology

The data for the study comprised of 381 national and state level basketball players between the age group of 15 to 35 participated in youth junior and senior national championship between 2011 to 2014. To achieve the purpose of the study 157 no. of boys 224 no. of girls whole heartedly participated during their participation in national championship approved by basketball federation of India. The average age of the students were under 16 in youth, under 18 in junior, and above in senior.

The data for this study collected from the sample with two questionnaires.
1) **Locus of control scale** consisted of 29 items for which participants select from 2 statements the one that more accurately reflect what they believe to be true. 6 of the 29 items are fillers. Score range from 0 to 23, with lower score indicative of a more internal locus of control and higher scores indicating a more external locus of control (Rotter, 1966).
2) **Athletic identity measurements scale (AIMS)** consisted of 10 items distributed along with this questionnaire pack with simple statement. The AIMS was designed to assess the social cognitive and affective aspects of athletic identity. The AIMS is a 10 items measure scored on a 7 point likert type scales ranging from (1) strongly disagree to strongly agree. Score range from 10 to 70 with high scores indicating stronger identification with the athletic role. (Groff, et.al. 2006)

The data pertaining to locus of control and athletic identity was tested using multivariate Analysis of Variance (MANOVA) and Analysis of variance (ANOVA) for analyzing the differences exist between grouping variables. Testing of hypothesis level of significance was set at .05 level.

3. Results of the Study

Table 1: Descriptive Statistics of Locus of Control among National Basketball players

	Gender	Group	Mean	Std. Deviation	N
Locus of Control	Male	Youth	13.06	3.768	31
		Junior	12.64	2.649	42
		Senior	14	3.376	84
		Total	13.45	3.317	157
	Female	Youth	13.31	3.232	54
		Junior	12.25	3.031	57
		Senior	12.42	3.262	113
		Total	12.59	3.21	224
	Total	Youth	13.22	3.417	85
		Junior	12.41	2.868	99
		Senior	13.1	3.394	197
		Total	12.95	3.278	381

Descriptive statistics of participants on dependent variable locus of control are presented on table 1. 29 statements are there in locus of control scale. Maximum possible score of locus of control questionnaire is 23. Those who obtain below 8 can be considered as high internals. Those who obtain above 15 can be considered as high externals. Those

who scored between 9 to 14 can be considered intermediate. The locus of control table shows that male players total mean score on locus of control is 13.45 (SD=3.317), female players is 12.59 (SD=3.21). The maximum possible score on this subscale is 23 which shows that male participants mean score is 58.48% and female participants is 54.74%. Based on the independent variable group, youth participants mean score on locus of control is 13.22 (SD= 3.417), Junior participants mean score is 12.41 (SD= 2.868), Senior players 13.10 (SD =3.394). The results revealed that the percentage of mean score of youth participants locus of control is 57.48%. Junior participants is 53.95% and Senior participants is 56.95%.

Table 2: Descriptive statistics of athletic identity on National basketball players

	Gender	Group	Mean	Std. Deviation	N
Athletic Identity	Male	Youth	46.2903	3.46596	31
		Junior	44.8333	4.90354	42
		Senior	43.1667	4.71561	84
		Total	44.2293	4.69161	157
	Female	Youth	44.463	3.88375	54
		Junior	43.7193	4.63586	57
		Senior	44.6018	4.40685	113
		Total	44.3438	4.34423	224
	Total	Youth	45.1294	3.81971	85
		Junior	44.1919	4.75883	99
		Senior	43.9898	4.58479	197
		Total	44.2966	4.48491	381

Descriptive statistics of national basketball players on athletic identity is presented in table 2. Athletic identity table shows that male players total mean score on athletic identity is 44.23 (SD=4.69), female players is 44.34 (SD=4.34). The maximum possible score on this subscale is 49, which shows that male participants mean score is equivalent to 90.26% and female participants is 90.49% of the maximum possible score. Based on the independent variable group, youth participants mean score on athletic identity is 45.13 (SD = 3.81), Junior players is 44.19 (SD = 4.76), Senior players is 43.99 (SD= 4.58). The results revealed that the percentage of mean score of youth participants on athletic identity is 92.10%. Junior participants is 90.18 %, Senior participants is 89.77 % of maximum possible score. The results indicated that maximum players involved in the survey is having higher AIMS scores indicate stronger identification with the athlete role.

Table 3: Percentage of Locus of Control among national level Basketball players in India

Gender	Group	Internals > 9	Intermediate 9-14	Externals <14
Male	Youth	9.68% (3)	54.84% (17)	35.48% (11)
	Junior	4.76%(2)	66.67%(28)	28.57%(12)
	Senior	1.19%(1)	55.95%(47)	42.86%(36)
	Total	3.82%(6)	58.60%(92)	37.58%(59)
Female	Youth	5.56%(3)	61.11%(33)	33.33%(18)
	Junior	7.02%(4)	66.67%(38)	26.32%(15)
	Senior	9.73%(11)	66.37%(75)	23.89%(27)
	Total	8.04%(18)	65.18%(146)	26.78%(60)

This table shows percentage analysis of locus of control of national Basketball players participated in the research from

different national championship between 2011 to 2014. In this 3.82% (n=6) of basket ball male players male players scored low locus of control score ie, internals. All the same time 58.60%(n=92) of male players comes in intermediate category and 37.58% (n=59) players are externals. In case of female basketball players 8.04% (n=18) players scored low locus of control score which means internals. At the same time 65.18% (n=146) players comes in intermediate category and 26.78% (n=60) female players are heaving high locus of control score ie externals.

On the basis of independent variable group, youth category 9.68% (n=3) of male basket ball players scored low locus of control score ie., internals, 54.84%(n=17)of male basket ball players came in intermediate category and 37.58% (n=59) of players score high locus of control score ie., externals of youth male basket ball players. On the basis of independent variable group among junior category, 4.76% (n=2) of male players score low locus of control score ie internals, 66.67% (n=28) of male junior basket ball players scored intermediate locus of control score and 28.57%(n=12) of basket ball players scored high locus of control score ie externals. On the basis of independent variable group among male senior category 1.19%(n=1) of basket ball player scored law locus of control score ie internals, 55.95% (n=47) players scored came in intermediate category and 42.86%(n=36) of basket ball players scored law locus of control score ie, internals. On the basis of independent variable group among female youth category 5.56% (n=3) players scored low locus of control score ie internals. 61.11% (n=33) female youth players in intermediate category and 33.33%(n=18) of basketball female players came in intermediate category and 33.33% (n=18) female basket ball players scored high locus of control score ie externals. On the basis of independent variable group among female junior category 7.02% (n=4) players scored low locus of control score ie., internals. 66.67%(n=38) female players in intermediate category and 26.32% (n=15) female players scored high locus of control score ie externals. On the basis of independent variable group among female senior category 9.73% (n=11) players

scored low locus of control score ie.,internals. 65.18%(n=146) players came under intermediate category and 23.89% (n=27) female players scored high locus of control score ie externals.

Table 4: Percentage of Athletic Identity among national level Basketball players in India

Gender	Group	Low > 16	Intermediate 16-32	High <32
Male	Youth	0.0	0.0%	100.0(31)
	Junior	0.0	0.0%	100.0(42)
	Senior	0.0	1.18%(1)	98.82(83)
	Total	0.0	0.64%(1)	99.36(156)
Female	Youth	0.0	1.85%(1)	98.15(53)
	Junior	0.0	0.0%	100.0(57)
	Senior	0.0	0.0%	100.0(113)
	Total	0.0	.45%(1)	99.55(223)

The table shows percentage analysis of athletic identity among national basketball players. The results reveals that 99.4 % (n=156) of male basketball players athletic identity level is very high. Only 0.6 % (n=1) of male basketball players is having intermediate level of athletic identity score. At the same time 99.6% (n=223) of female basketball players expressed high level of athletic identity throughout the survey. Only 0.1% (n=1) of female player is in intermediate level of athletic identity. When the independent variable group is concerned, 98.8% (n=83) senior male basketball players are having high athletic identity score and 1.19%(n=1) male player is in intermediate score. Among junior male players category 100% of students are having high athletic identity score ie. 100.00 % (n=42). Based on independent variable group, 98.2% (n=53) of youth basketball female players are having high athletic identity score. Only 1.85% (n=1) of youth female player is coming under intermediate category. 100% (n=57) junior female basketball players are having high athletic identity score. 100% (n=113) Senior female basketball players are having high athletic identity score.

Table 5: Multivariate Tests on the Independent Variables

Multivariate Tests[a]							
	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
GENDER	Pillai's Trace	0.051	1.979[b]	10	366	0.035	0.051
	Wilks' Lambda	0.949	1.979[b]	10	366	0.035	0.051
	Hotelling's Trace	0.054	1.979[b]	10	366	0.035	0.051
	Roy's Largest Root	0.054	1.979[b]	10	366	0.035	0.051
GROUP	Pillai's Trace	0.19	3.852	20	734	0	0.095
	Wilks' Lambda	0.815	3.952[b]	20	732	0	0.097
	Hotelling's Trace	0.222	4.051	20	730	0	0.1
	Roy's Largest Root	0.193	7.076[c]	10	367	0	0.162
a. Design: Intercept + GENDER + GROUP + GENDER * GROUP							
b. Exact statistic							
c. The statistic is an upper bound on F that yields a lower bound on the significance level.							
d. Computed using alpha = .05							

The result of MANOVA analysis shows that, the independent variable gender does not have significant main effect (Wilk's λ = .949 F = 1.979 (10,366), p < .035).The observed power of partial ETA squared is .051, it also shows that, this independent variable (gender) accounting only 5.1% of variability in dependent variables. In the case of

second independent variable group (Youth, Junior and Senior), all the tests indicate the multivariate effect is statistically significant for the current data (Wilk's λ = .815, F = 3.952(20,732), p < .000).This significant F indicates that, there are significant main effect between groups on selected dependent variables. The observed power of partial

ETA squared is 0.097, it also shows that, this IV (Group) accounting only 9.7% of variability among dependent variables.

Interaction effect of gender and group indicate the multivariate effect is statistically significant for the current data Wilk'sλ = .015, F =1.831 (20, 732), p < .015). There is significant interaction effect between gender & group there on the selected dependent variables. The observed power of partial ETA squared is .048, it also shows that the interaction accounting only 4.8% variability along dependent variable.

Table 6: Univariate Anova on Effect of Group (Youth, Junior and Senior) with Dependent Variables on Players From Various Levels

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Locus of Control	41.392	2	20.696	1.98	0.139	.010
Athletic Identity	124.672	2	62.336	3.172*	0.043	.017

*Significant at .05 levels

The ANOVA result reveals that, the dependent variable Athletic Identity (F = 3.172, *p*<.017) found significantly differ between groups viz; youth, junior and seniors. All other dependent variables were not found significant. Pairwise comparison and post hoc test (LSD) was performed on the independent variable Athletic identity.

Table 7: Pair Wise Comparison on the Dependent Variable (Athletic Identity)

Pairwise Comparisons							
Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
						Lower Bound	Upper Bound
Athletic Identity	Youth 45.377	Junior	1.100	.673	.103	-.223	2.423
		Senior	1.492*	.593	.012	.327	2.658
	Junior 44.276	Youth	-1.100	.673	.103	-2.423	.223
		Senior	.392	.552	.478	-.694	1.478
	Senior 43.884	Youth	-1.492*	.593	.012	-2.658	-.327
		Junior	-.392	.552	.478	-1.478	.694
Based on estimated marginal means							
*. The mean difference is significant at the .05 level.							
b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).							

Athletic identity is the dependent variable which measures the strength and exclusivity of identification with the athlete role. Pair wise comparison shows that players belonging to youth category are having the highest mean score of 45.38 and differ significantly with senior category (MD=1.492). There is no significant difference was found between youth and junior and juniors and seniors. This indicates that players belonging to youth category are more strongly identified with the athlete role compared the juniors and senior level players.

4. Conclusions

1) The dependent variables athletic identity found significant differ between groups viz.; youth, junior and senior basketball players in India
2) No significant difference was found between gender and group (youth, junior and senior) of Basketball players on locus of control.
3) The players belonging to youth category are more strongly identified with the athlete role compared the juniors and senior level basketball players

References

[1] Jesse A. Steinfeldt et al , July (2010). Gender Role Conflict, Athletic Identity, and Help seeking among High School Football Players. Journal of Applied Sport Psychology, 22:3, 262 – 273.

[2] Marina Mateos et al, (2010). Evaluation of Carreer Assistance Programme for elite athletes. Faculty of sport, University of Liubljana, ISSN 1318 – 2269.

[3] Sherman, A.C., Higgs, G.E., & Williams, R.L. (1997). Gender differences in the locus of control construct. Psychology & Health, 12, 239 – 248.

[4] Horton, R. S., & Mack, D. E. (2000). Athletic identity in marathon runners: Functional focus or dysfunctional commitment? *Journal of Sport Behavior*, *23*, 101–119.

[5] Scott L. Green et al , Oct. (2007) Relationships among Athletic Identity, Coping Skills, Social Support, and the Psychological Impact of Injury in Recreational Participants. Journal of Applied Sports Psychology 13:1, 40 – 59.