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Comparison of mental toughness status amongst players of team games

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Abstract

Background: - Today, sports have been becoming inseparable phenomena of our social life. It has made its own plan at the apex of human civilization because of its trial competitive event and ever improving nature. Mental health describes a level of psychological well-being, or an absence of a mental disorder. From the perspective of 'positive psychology' or 'holism', mental health may include an individual's ability to enjoy life, and create a balance between life activities and efforts to achieve psychological resilience. Mental health can also be defined as an expression of emotions, and as signifying a successful adaptation to a range of demands. Importance of mental toughness in sports can be easily understood if we try to analyze the role of six variables in performances. The purpose of the research was to study mental toughness status amongst players of team games. **Materials and Methods:** - A total numbers of subjects for the present study were 60 players (10 male and 10 female players) from each game i.e. cricket, basketball and handball, who had participated at least at inter collegiate level of CDLU, Sirsa in the age groups 18-27. To assess mental toughness of inter college level of sportsperson, the mental toughness questionnaire prepared by Dr. Sandip Tiwari was used as tool for this study. In the present study descriptive mean value, standard deviation and inferential (ANCOVA, post hoc LSD) statistics were employed to analyze the data. **Results and Discussions:** After the interpretation of data, the investigator was in position to draw certain findings on the basis of analysis and position. According to the objectives and the hypothesis stated earlier in the present study, the results were presented as follows: it was clearly seen that the mental toughness of Cricket player had higher mean value of (182.70) and of Handball players had low mean value of (169.90). **Conclusion:** - On the basis of results the mental toughness of Cricket players was highest than Handball players amongst the studied groups.

Keywords: Mental toughness:-Self Confidence, self-Motivation, Attention Control, Goal Setting, Visual and Imagery Control, Attitude Control.

1. Introduction

Sports are as old as human society and it has achieved a universal status in modern society. It now enjoys a popularity which outstrips any other forms of social activity; it has become an integral part of the education process. Many participate in sports activity for the fun or health and fitness. To others it is a profession with an ample finance and labeled with a degree of popularity. Sports have become a mass movement and a social phenomenon of great magnitude.

In response to these suggestions, Jones et al. (2007) investigated mental toughness in a sample of performers, coaches, and sport psychologists who had achieved the outcome component criteria of Olympic or World Champion or had been a coach or sport psychologist to such performers.

According to David Carnes (2010) "Mental toughness is the psychological attribute that separates greatness from mediocrity. Although it is most commonly mentioned in connection with athletic performance, it can be used to advantage in almost every area of life".

Mental health describes a level of psychological well-being, or an absence of a mental disorder. From the perspective of 'positive psychology' or 'holism', mental health may include an individual's ability to enjoy life, and create a balance between life activities and efforts to achieve psychological resilience. Mental health can also be defined as an expression of emotions, and as signifying a successful adaptation to a range of demands.

As literature has supported that motivation plays a very important role in the mental toughness. Similarly, Self Confidence, Attention Control, Goal Setting and Visual & Imagery, Attitude Control have significant role to play in performance of an athlete. The first important variable in mental toughness is self-confidence which primarily refers to as having

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a positive and realistic perception of ourselves and our abilities. The term motivation denotes the factors and process that derive people to action in various situations. The study of motives involves the checking of reasons, why people select certain things to do, why they perform with interest in certain tasks and why they continue working or performing for longer time. It is the ability to sustain a continuous focus on the task at hand, the ability to ‘tune in’ to what’s important and ‘tune out’ to what is not. Unforced errors by distractions are all too common. Two important elements of attention control are elective attention and concentration. To realize a goal in sport or in daily life, motivation has to be directed toward the goal. Coaches and athletes are interested in learning how goal-setting or motivation can be achieved and made operational. Mental imagery is a way of dealing mentally with the situation before it occurs in practice. The practice of confrontation with the possible problems by practicing means of coping with them and overcoming them is called mental imagery. The athlete should be better able to cope in reality with the sports competition. Attitude is control over one’s habits of thought with reflecting the extent to which one’s personal attitudes becomes consistent with the successful high level performances. Attitudes are long lasting if we have an attitude towards our sports; we are supposed to stick to it. Attitude involves making judgments; our attitudes to sport are likely to emerge as whether positive or negative, understanding of attitudes is important to the coaches by understanding the relation between attitudes.

2. Materials and Methods

Sample: In the present study total 60 subjects, in the age group 18 to 27years were selected after their informed consent in the present study. Out of them 10 Male and 10 female subjects from three different games such as Cricket, Basketball and Handball were selected randomly who had participated at least at inter colligate level of CDLU, Sirsa.

2.1 Tools to be used:

To asses Mental toughness of inter college level sportspersons, Mental Toughness Questionnaire, prepared by Dr Sandip Tiwari was used as tool for this study.

2.2 Procedure of conducting the tests

The scholar filled questionnaire from CDLU campus and then remaining from Shah Satnam Ji Girls College and taught them about how to fill and also gave them an appropriate time to fill the questionnaire.

2.3 Scoring

The scoring of the questionnaire was based on five point likert scale where the responses extent from strongly disagreed to strongly agreed. The minimum score, obtained on the sub variable of Self Confidence was 8 and maximum was 40, Motivation; 10 minimum and 50 maximum, Goal Setting; minimum 8 and maximum 80. Visual & Imagery; minimum 6 and maximum 30, Attitude Control; minimum 6 and maximum 30. In order to identify the weak and strong points of the sports persons the 6 sub-variables scores included in the Mental Toughness Questionnaire were calculated. To assess the overall Mental Toughness of a sports person it was essential to total the score of all the six sub-scale. Thus, a minimum score of 48 and maximum score of 240 was obtained by a respondent.

2.4 Statistical Design

In the present study Descriptive (Mean ± SD) and SED, inferential (ANCOVA, post hoc LSD) statistics was employed to analyses the data obtained from the subjects. Descriptive, comparative (ANCOVA, post hoc LSD) statistics was employed to analyses the data

3. Results and Discussions

This chapter deals with the statistical analysis of the data and the related interpretation in details Ancova test was used to find the difference among Cricket, Basketball and Handball on mental toughness, the analysis and interpretation of data is presented in the table 3.1 to 3.14.

Characteristics of self-confidence aspect of mental toughness of various groups.

Table No 3.1: Showing the Characteristics of self confidence

Game	Sex	Mean	Std. Deviation	N
Cricket	Male	29.3000	3.19896	10
	Female	30.1000	2.28279	10
	Total	29.7000	2.73573	20
Basket Ball	Male	28.7000	4.69160	10
	Female	26.1000	4.01248	10
	Total	27.4000	4.45327	20
Handball	Male	27.8000	3.61478	10
	Female	28.4000	5.31664	10
	Total	28.1000	4.43550	20
Total	Male	28.6000	3.80200	30
	Female	28.2000	4.26210	30
	Total	28.4000	4.00931	60

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	94.400a	5	18.880	1.194	.325
Intercept	48393.600	1	48393.600	3060.017	.000
Game	55.600	2	27.800	1.758	.182
Sex	2.400	1	2.400	.152	.698
Game * Sex	36.400	2	18.200	1.151	.324
Error	854.000	54	15.815		
Total	49342.000	60			
Corrected Total	948.400	59			

a. R Squared = .100 (Adjusted R Squared = .016)

Table No.3.1 demonstrated the characteristics of self-confidence of mental toughness. On the basis of table it is clearly seen that the self-confidence of Cricket player were highest (29.70) and basketball were lowest (27.40) amongst

the studied groups. The inferential analysis (ANCOVA) revealed statistically (p > 0.05) insignificant difference amongst the studied groups i.e. Hand ball, Cricket, Basket Ball.

Table 3.3: Showing the Characteristics of Self-Motivation

Game	Sex	Mean	Std. Deviation	N
Cricket	Male	36.0000	4.71405	10
	Female	37.0000	1.63299	10
	Total	36.5000	3.47169	20
Basket Ball	Male	36.8000	6.42564	10
	Female	35.8000	3.58391	10
	Total	36.3000	5.08972	20
Handball	Male	37.5000	4.08928	10
	Female	33.4000	8.84685	10
	Total	35.4500	7.02982	20
Total	Male	36.7667	5.02877	30
	Female	35.4000	5.60542	30
	Total	36.0833	5.32437	60

Table 3.4: Comparison (ANCOVA) of motivation amongst the different groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	106.483a	5	21.297	.734	.601
Intercept	78120.417	1	78120.417	2693.635	.000
Game	12.433	2	6.217	.214	.808
Sex	28.017	1	28.017	.966	.330
Game * Sex	66.033	2	33.017	1.138	.328
Error	1566.100	54	29.002		
Total	79793.000	60			
Corrected Total	1672.583	59			

a. R Squared = .064 (Adjusted R Squared = -.023)

Table No 3.3 Demonstrated the characteristics of motivation of mental toughness. On the basis of table it is clearly seen that the motivation of Cricket player were highest (36.50) and hand ball players were lowest (35.45) amongst the studied groups.

The inferential analysis (ANCOVA) revealed statistically ($p > 0.05$) insignificant difference amongst the studied groups for both the sex i.e. Hand ball, Cricket, Basket Ball.

Table 3.5: Showing the Characteristics of Attention control

Game	Sex	Mean	Std. Deviation	N
Cricket	Male	36.3000	5.81282	10
	Female	40.5000	1.90029	10
	Total	38.4000	4.72841	20
Basket Ball	Male	35.8000	6.64664	10
	Female	35.9000	4.50802	10
	Total	35.8500	5.52768	20
Handball	Male	35.5000	7.36735	10
	Female	33.6000	6.88315	10
	Total	34.5500	7.00733	20
Total	Male	35.8667	6.41514	30
	Female	36.6667	5.53567	30
	Total	36.2667	5.95425	60

Table 3.6: Comparison (ANCOVA) of attention control amongst the different groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	259.733a	5	51.947	1.531	.196
Intercept	78916.267	1	78916.267	2326.134	.000
Game	153.433	2	76.717	2.261	.114
Sex	9.600	1	9.600	.283	.597
Game * Sex	96.700	2	48.350	1.425	.249
Error	1832.000	54	33.926		
Total	81008.000	60			
Corrected Total	2091.733	59			

a. R Squared = .124 (Adjusted R Squared = .043)

Table No 3.5 demonstrated the characteristics of attention control of mental toughness. On the basis of table it is clearly seen that the attention control of Cricket player was highest (38.40) and handball players were lowest (34.55) amongst

the studied groups. The inferential analysis (ANCOVA) revealed statistically ($p > 0.05$) insignificant difference amongst the studied groups in both the sex.

Table 3.7: Showing the Characteristics of Visual Imaginary

Game	Sex	Mean	Std. Deviation	N
Cricket	Male	23.8000	3.67575	10
	Female	22.9000	1.10050	10
	Total	23.3500	2.68083	20
Basket Ball	Male	22.7000	3.80205	10
	Female	22.5000	1.43372	10
	Total	22.6000	2.79850	20
Handball	Male	22.3000	2.62679	10
	Female	20.3000	5.77446	10
	Total	21.3000	4.48506	20
Total	Male	22.9333	3.35213	30
	Female	21.9000	3.56564	30
	Total	22.4167	3.47042	60

Table 3.8: Comparison (ANCOVA) of visual imaginary amongst the different groups

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	67.283a	5	13.457	1.130	.356
Intercept	30150.417	1	30150.417	2530.891	.000
Game	43.033	2	21.517	1.806	.174
Sex	16.017	1	16.017	1.344	.251
Game * Sex	8.233	2	4.117	.346	.709
Error	643.300	54	11.913		
Total	30861.000	60			
Corrected Total	710.583	59			

a. R Squared = .095 (Adjusted R Squared = .011)

Table No3.7 demonstrated the characteristics of visual imaginary of mental toughness. On the basis of table it is clearly seen that the self-confidence of Cricket player were highest (23.50) and hockey players were lowest (21.90) amongst the studied groups.

The inferential analysis (ANOVA) revealed statistically ($p > 0.05$) insignificant difference amongst the studied groups in both sex.

Table 3.9: Showing the Characteristics of Attitude Control

Game	Sex	Mean	Std. Deviation	N
Cricket	Male	20.2000	3.85285	10
	Female	21.4000	3.09839	10
	Total	20.8000	3.45802	20
Basket Ball	Male	22.4000	3.86437	10
	Female	21.2000	1.87380	10
	Total	21.8000	3.01924	20
Handball	Male	21.8000	1.87380	10
	Female	21.5000	4.14327	10
	Total	21.6500	3.13344	20
Total	Male	21.4667	3.35007	30
	Female	21.3667	3.06800	30
	Total	21.4167	3.18520	60

Table 3.10: Comparison (ANCOVA) of attitude control amongst the different groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	26.483a	5	5.297	.500	.775
Intercept	27520.417	1	27520.417	2597.627	.000
Game	11.633	2	5.817	.549	.581
Sex	.150	1	.150	.014	.906
Game * Sex	14.700	2	7.350	.694	.504
Error	572.100	54	10.594		
Total	28119.000	60			
Corrected Total	598.583	59			

a. R Squared = .044 (Adjusted R Squared = -.044)

Table No.3.9 demonstrated the characteristics of attitude control of mental toughness. On the basis of table it is clearly seen that the self-confidence of basketball player were highest (21.80) and cricket players were lowest (20.80) amongst the studied groups.

The inferential analysis (ANCOVA) revealed statistically ($p > 0.05$) insignificant difference amongst the studied groups in both the groups.

Table 3.11: Showing the Characteristics of Goal Setting

Game	Sex	Mean	Std. Deviation	N
Cricket	Male	33.6000	3.50238	10
	Female	34.3000	1.70294	10
	Total	33.9500	2.70429	20
Basket Ball	Male	29.9000	4.60555	10
	Female	30.9000	4.12176	10
	Total	30.4000	4.28461	20
Handball	Male	29.0000	5.92546	10
	Female	28.7000	5.03433	10
	Total	28.8500	5.35355	20
Total	Male	30.8333	5.03836	30
	Female	31.3000	4.41900	30
	Total	31.0667	4.70437	60

Table 3.12: Comparison (ANCOVA) of Goal Setting amongst the different groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	281.333a	5	56.267	2.966	.019
Intercept	57908.267	1	57908.267	3052.564	.000
Game	273.433	2	136.717	7.207	.002
Sex	3.267	1	3.267	.172	.680
Game * Sex	4.633	2	2.317	.122	.885
Error	1024.400	54	18.970		
Total	59214.000	60			
Corrected Total	1305.733	59			

a. R Squared = .215 (Adjusted R Squared = .143)

Table No. 3.10 demonstrated the characteristics of goal setting of mental toughness. On the basis of table it is clearly seen that the self-confidence of cricket player were highest (33.95) and handball players were lowest (28.85) amongst the studied groups.

The inferential analysis (ANCOVA) revealed statistically ($p < 0.05$) significant difference amongst the studied groups in both the groups. The cricket players has better control than that of studied groups. When it was seen the different between the sex no significant difference was witnessed.

Table 3.13: Showing the Characteristics of Mental Toughness

Game	Sex	Mean	Std. Deviation	N
Cricket	Male	179.2000	18.94319	10
	Female	186.2000	4.66190	10
	Total	182.7000	13.89850	20
Basket Ball	Male	176.3000	25.57799	10
	Female	172.4000	14.79640	10
	Total	174.3500	20.43546	20
Handball	Male	173.9000	18.79982	10
	Female	165.9000	33.69949	10
	Total	169.9000	26.87378	20
Total	Male	176.4667	20.71104	30
	Female	174.8333	22.38855	30
	Total	175.6500	21.39842	60

Table 3.14: Comparison (ANCOVA) of mental toughness amongst the different groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	2330.150a	5	466.030	1.019	.415
Intercept	1851175.350	1	1851175.350	4049.481	.000
Game	1689.100	2	844.550	1.847	.167
Sex	40.017	1	40.017	.088	.768
Game * Sex	601.033	2	300.517	.657	.522
Error	24685.500	54	457.139		
Total	1878191.000	60			
Corrected Total	27015.650	59			

Table No3.13 demonstrated the characteristics of mental toughness. On the basis of table it is clearly seen that the mental toughness of Cricket player were highest (182.70) and handball players were lowest (169.90) amongst the

studied groups. The inferential analysis (ANCOVA) revealed statistically ($p < 0.05$) significant difference amongst the studied groups.

4. Conclusion

On the basis of results the mental toughness of Cricket player had higher mean value of (182.70) and handball players had low mean value of (169.90) amongst the studied groups.

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