

# A Comparative Study of the Mental Toughness among Different Level of Football Players

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**Abstract – Mental toughness is having a natural or developed psychological edge that enables you to normally cope better than your opponents with the many demands (competition, training, lifestyle) that sports places on a performer (Jones et al. 2002). The purpose of the present study was to compare the mental toughness among male football players of U-15, U-17 and senior level. A total of 90 male state and national level football players completed Psychological Performance Inventory (PPI) for mental toughness. To determine the difference of Mental Toughness level among players One-Way ANOVA was used for determining the differences across groups and was tested at 0.05 level. The results revealed that there was a significant difference found in the sub factors of mental toughness (Self -confidence, negative energy control, attitude control, visualization and imagery control and attitude control among the levels or groups, with no significant differences in the sub factors of motivation and positive energy). The senior level players had a significantly higher score on visualization and imagery and attitude control. The U-15 had a significantly higher score on the negative energy control and attention control. Whereas, U-17 had a significantly higher score on self-confidence. Overall, results appear to indicate that from an early age, some differences in regard to mental toughness can be found depending on the level of performance.**

**Key Words – Mental Toughness, Self-Confidence, Negative Energy Control, Attitude Control, Visualization and Imagery Control and Attitude Control.**

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## INTRODUCTION

In the scientific and sport community, mental toughness is viewed as one of the most important attributes that will lead to a successful athletic performance (Bull et.al. 2005). Mental toughness implies the ability to handle pressure and adversities which may arise during competition. There are many challenges and obstacles in which players face during their football career such as having a poor performance, suffering from a serious injury and many others.

The purpose of this study was to compare the mental toughness among different level of football players which constituted Under-15, Under-17 and senior level players. With the contrast in age, experience and the level of competition in which aforesaid level of football players faced, it is apparent that the degree of mental toughness differs among the different levels of football players. Through this comparison we aimed to find out the significant differences with respect to mental

toughness which arises among the different level of football players.

From reviewing of related literature, it was evident that previous studies focused on mental toughness among youth players only but the comparison between youth players and senior players in the context of mental toughness has not been given much attention. Many studies failed to find the differences in mental toughness between young football players and senior players. Due to vital importance of mental toughness in football, the present study focuses on the comparison of mental toughness between different level of soccer players.

## METHODOLOGY

### Selection of subjects

A total of 90 male State and National level male football players were selected from three categories that is under-15, under-17 and Senior level with their age ranging between 13-32 years. The total samples

were further classified into 30 subjects each in the designated categories. For the U-15 category, the data was collected from players who participated in the Subroto Cup competition; the data for the U-17 category was collected from the U-18 Youth I-league team and for the senior category and the data was collected from players who participated in the Santosh Trophy competition. All participants were fully informed about the aims of the study, the procedures, and gave their voluntary consent before being part of this study

**Selection of Variable**

The Psychological Performance Inventory (PPI) questionnaire was developed by James E. Loehr (1982) is a useful psychometric tool to measure individuals' mental toughness. PPI is a personal awareness version which focuses on the score range for seven broad personalities and behavioral factors that are associated with the success in competitive activity. The subjects responded to each statement using a Five-point Likert scale. Hence the minimum point of response in each system stands at 1 and a maximum pole at 5. This questionnaire measures various aspects of mental toughness in seven sub-factors. The 42-item scale yields an overall mental toughness score, as well as 7-item subscale scores: (a) self-confidence; (b) negative energy control;(c) attention control; (d) visualization and imagery control; (e) motivation level; (f) positive energy and (g) attitude control. The subjects are asked to indicate whether each reason was almost always, often, sometimes, seldom, and almost never. Scores are recorded on a Five point Likert scale. Sub-scale scores ranged from a low of 6 to a desirable high of 30 and total scores from 42 to 210.

**Statistical Procedures**

Data was presented as quantitative data, descriptive statistics such as mean and standard deviation and comparative statistics such as one-way analysis of variance (ANOVA) was employed to assess the result of the comparison among the different levels of football players and tested at 0.05 level of significance.

**RESULTS**

In this section, both descriptive and inferential statistics results are presented on ninety male football players of different age categories (U15, U17 and Senior) who participated in the survey.

**Table 1**

**Descriptive Statistics of Mental Toughness of the Different Levels of Football Players**

		N	Mean	Std. Deviation
Self confidence	under15	30	23.30	2.35
	under16	30	25.73	2.06
	senior	30	25.33	2.18
	Total	90	24.78	2.42
Negative Energy Control	under15	30	21.70	1.93
	under16	30	17.76	1.59
	senior	30	18.60	2.55
	Total	90	19.35	2.65
Attention Control	under15	30	21.63	2.44
	under16	30	19.93	2.67
	senior	30	17.23	2.80
	Total	90	19.60	3.18
Visualization and Imagery	under15	30	21.26	3.87
	under16	30	24.03	3.44
	senior	30	24.73	2.39
	Total	90	23.34	3.59
Motivation	under15	30	27.53	2.31
	under16	30	26.40	1.42
	senior	30	27.30	1.93
	Total	90	27.07	1.96
Positive Energy	under15	30	25.63	2.57
	under16	30	25.60	2.25
	senior	30	26.23	1.94
	Total	90	25.82	2.26
Attitude Control	under15	30	22.23	2.51
	under16	30	24.10	2.15
	senior	30	25.63	2.83
	Total	90	23.98	2.85

Table 1, indicates the mean score of mental toughness of the different levels of football players. In the Sub -factor of Self-Confidence the mean and SD of Under-15, Under-17 and Senior Level was 23.33 + 2.35, 25.73 + 2.06 & 25.33 + 2.18 respectively. In Negative Energy Control the mean and SD of Under-15, Under-17 and Senior Level was 21.70 + 1.93, 17.76 + 1.59 & 18.60 + 2.55 respectively. In Attention Control the mean and SD of Under-15, Under-17 and Senior Level was 21.633 + 2.44, 19.93 + 2.67 & 17.23 + 2.80 respectively. In Visualization and Imagery the mean and SD of Under-15, Under-17 and Senior Level was 21.26 + 2.44, 19.93 + 2.67 & 24.73 + 2.39 respectively. In Motivation the mean and SD of Under-15, Under-17 and Senior Level was 27.53 + 2.31, 26.40 + 1.42 & 27.30 + 2.39 respectively. In Positive energy the mean and SD of Under-15, Under-17 and Senior Level was 25.63 + 2.57, 25.60 + 2.25 & 26.23 + 2.51 respectively. In Attitude Control the mean and SD of Under-15, Under-17 and Senior Level was 22.23 + 2.51, 24.10 + 2.15 & 25.63 + 2.83 respectively. The graphical representation of mean scores of the sub factors of mental toughness is in figure 1.

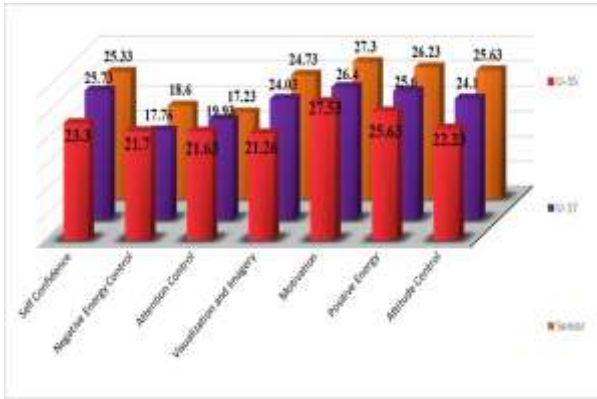


Figure 1: Mean Scores of Mental Toughness among Different Level of Football Players

Table 2

Analysis of Variance on Mental Toughness of Different Levels of Football Players

		Sum of Squares	df	Mean Square	F	Sig.
Self confidence	Between Groups	102.156	2	51.078	10.509*	.000
	Within Groups	422.833	87	4.860		
	Total	524.989	89			
Negative Energy Control	Between Groups	257.756	2	128.878	30.233*	.000
	Within Groups	370.867	87	4.263		
	Total	628.622	89			
Attention Control	Between Groups	295.400	2	147.700	21.128*	.000
	Within Groups	608.200	87	6.991		
	Total	903.600	89			
Visualization and Imagery	Between Groups	201.622	2	100.811	9.264*	.000
	Within Groups	946.700	87	10.882		
	Total	1148.322	89			
Motivation	Between Groups	21.489	2	10.744	2.894	.061
	Within Groups	322.967	87	3.712		
	Total	344.456	89			
Positive Energy	Between Groups	7.622	2	3.811	.738	.481
	Within Groups	449.533	87	5.167		
	Total	457.156	89			
Attitude Control	Between Groups	173.956	2	86.978	13.733*	.000
	Within Groups	551.033	87	6.334		
	Total	724.989	89			

\*Significant at 0.05 level Tabulated value of F.05 (2, 87) = 3.95

Table 2, revealed that the calculated F- value in the sub-factors Self- Confidence, Negative Energy Control, Attention Control, Attitude Control, Visualization and Imagery Control, Attitude Control was 10.509, 30.233, 21.128, 9.264, 13.733 respectively, which was found higher than the tabulated value 3.95 with df 2, 87 tested at significant level of 0.05. Therefore, since calculated F-value is more than the tabulated F-value, there was a significant difference found in the sub factors of mental toughness viz., self-confidence, negative energy control, attitude control, visualization and imagery control, attitude control among the levels or groups.

Also, it was evident that the calculated F- value in sub factors of Motivation and Positive Energy was 2.894 and 0.738 respectively, which was found lower than the tabulated value 3.95 with df 2, 87 tested at a significant level of 0.05. Therefore, since calculated F-value was less than the tabulated F- value, there were no significant differences in the sub factors of motivation and positive energy among the levels or groups. Further pairwise comparison was done for the factors of mental toughness among the different groups of football players which revealed:

Statistically significant result was found in self-confidence between under 16 and under 15 & under 15 and senior (MD= 2.43; p= 0.000 & MD= 2.03; p= 0.001) respectively. In negative energy control between under15 and under 16 & under 15 and senior (MD= 3.93; p= 0.000 & MD= 3.10; p= 0.000) significant result was found as was in attention control between 16 and senior (MD=2.70; p= 0.000). Significant result was found in visual and imagery under 16 and under 15 & under 15 and senior (MD= 2.76; p= 0.002 & MD= 3.46; p= 0.000) and in motivation between under 15 and under 16 (MD= 1.13; p= 0.002) respectively. In positive energy between under 15 and under 16 & under 15 and senior (MD= 1.86; p= 0.005 & MD= 3.40; p=0.000) and in attitude control between senior and under 15 & senior and under 16 (MD= 3.40; p= 0.000 & MD= 1.53; p= 0.002) significant difference was found when groups were compared with each other.

DISCUSSION

Investigating the existing possible differences in mental toughness among soccer players of teams of different age categories was the purpose of the study. The reason these categories were chosen was to verify if differences could be observed at this age when compared to senior players. Conducting this study has made nouvelle aspects in relation to age which is related to differences in mental toughness. Many previous studies have showed that on comparing the mental toughness of players there was a significant difference in mental toughness while in some studies there is no insignificant difference. This was mainly due to the behavioral and social aspects of the players.

The results of the study showed that the senior level players had a significantly higher score on sub categories of mental- toughness that is visualization and imagery and attitude control. The U-15 had a significantly higher score on the negative energy control and attention control. Whereas, U-17 had a significantly higher score on self -confidence. Nevertheless, and despite scarce literature which considers age, there is sufficient evidence that indicates that older subjects show more mental toughness.

The manner in which the level of performance has been considered varies, for instance, in some

occasions it was considered according to the level of the athletes, international or national, in other occasions depending on whether they were amateurs or professional. In these cases, the contrast is substantial, which favors the detection of differences in different age category. The significant results obtained in this variable revealed the ability of the football players of all levels to push past exhaustion, opposition, and injury to score and to win. Players might typify the sort of mental toughness that makes them winners, but the same skills can apply to many areas of everyday life. The players were mentally tough to be able to succeed, and they knew they can do it. The result revealed mental toughness or willpower that can be thought of as a combination of intention, effort and courage.

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