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## Mental toughness and emotional maturity in baseball performance: Identifying performance indicators

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### Abstract

The researchers of this study aim to know about the role of mental toughness and emotional maturity in performance of baseball players. The investigators had selected Sixty (N=60) male baseball players of 19 to 27 years of age to act as subjects. They were divided into three groups; (i.e., N<sub>1</sub>=20; District, N<sub>2</sub>=20; State and N<sub>3</sub>=20 National). The purposive sampling technique was used to select the subjects. To measure the level of Mental Toughness among subjects, Mental Toughness, constructed by Goldberg *et al.* (1998) was administered. To measure the level of Emotional Maturity among subjects, Emotional Maturity Scale constructed by Singh and Bhargava's (1988) was administered. One way Analysis of Variance (ANOVA) was employed to find out the intra-group differences. For testing the hypotheses, the level of significance was set at 0.05. Summarizing from the above findings we can say that insignificant differences were found among male baseball players (District, State and National) on the sub-variables of Mental Toughness i.e., Reboundability, Ability to Handle Pressure, Concentration, Confidence, Motivation and Overall Mental Toughness. Concludingly from the above findings that insignificant differences were present among male baseball players (District, State and National) on the sub-variables of Emotional Maturity i.e., Emotional Unstability, Emotional Regression, Social Maladjustment, Personality Disintegration, Lack of Independence and Emotional Maturity (Total).

**Keywords:** Mental Toughness, Emotional Maturity, Baseball, Lack of Independence

### Introduction

Competitive sports are being focused upon by researchers of different scientific fields in order to explore the possibility to know the different psychological variables which bear upon it. Sports psychologists are investigating to identify such variables which contribute to competitive success and also the behavioural patterns which result from training and participation in one sports activity or the other. In the present context, an individual is undoubtedly also influenced by social forces which affect the behaviour and sports performance. Hence, psychological determinants are important in the study of human performance in any field; as performance is the result of these specific traits and characteristics. Mental health, self-esteem and sports competition anxiety are few attributes which do affect an athlete's sports performance.

Today's physical and psychological training programmes are more and more intensive, especially in the case of elite athletes. The role of scientific and systematic preparation has become even more vital as neither physical standard nor skill level decides the performance outcome of an athlete but it is the psychological parameters of an individual which decide the medalist and non-medalist in a competition. An athlete requires something extra for the accomplishment of extra-ordinary performance in the area of sports. Suinn (1977) [9] "Something extra as intending to win instead of hoping to win" "It is ability to concentrate completely on performance in situation in which physical skills are to be closely matched with the competitor's psychological approach which ultimately becomes the critical factor that determines who wins.

### Material and methods

#### Subjects

The investigators had selected Sixty (N=60) male baseball players of 19 to 27 years of age to act as subjects.

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They were divided into three groups; (i.e., N<sub>1</sub>=20; District, N<sub>2</sub>=20; State and N<sub>3</sub>=20 National). The purposive sampling technique was used to select the subjects.

**Tools**

To measure the level of Mental Toughness among subjects, Mental Toughness, constructed by Goldberg *et al.* (1998) was administered. To measure the level of Emotional Maturity among subjects, Emotional Maturity Scale constructed by

Singh and Bhargava's (1988) was administered.

**Statistical analysis**

One way Analysis of Variance (ANOVA) was employed to find out the intra-group differences. For testing the hypotheses, the level of significance was set at 0.05.

**Results**

**Table 1:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Mental Toughness on the sub-Variable Reboundability

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	1.254	2	.673	.493	.623
Within Groups	75.720	57	1.301		
Total	75.003	59			

\*Significant at 0.05

It can be seen from table-1 that insignificant differences were found with regard to the sub-variable Reboundability among male baseball players District, State and National as the P-

value (Sig.) .623 was found higher than the 0.05 level of significance ( $p > 0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 2:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Mental Toughness on the sub-Variable Ability to Handle Pressure.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	.102	2	.065	.350	.967
Within Groups	58.100	57	1.218		
Total	58.014	59			

\*Significant at 0.05

It can be seen from table-2 that insignificant differences were found with regard to the sub-variable Ability to Handle Pressure among male baseball players District, State and National as the P-value (Sig.) .967 was found higher than the

0.05 level of significance ( $p > 0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 3:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Mental Toughness on the sub-Variable Concentration.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	2.646	2	1.421	1.216	.431
Within Groups	73.710	57	1.322		
Total	76.343	59			

\*Significant at 0.05

It can be seen from table-3 that insignificant differences were found with regard to the sub-variable Concentration among male baseball players District, State and National as the P-

value (Sig.) .431 was found higher than the 0.05 level of significance ( $p > 0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 4:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Mental Toughness on the sub-Variable Confidence.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	1.930	2	.950	.985	.395
Within Groups	55.780	57	.976		
Total	56.390	59			

\*Significant at 0.05

It can be seen from table-4 that insignificant differences were found with regard to the sub-variable Confidence among male baseball players District, State and National as the P-value

(Sig.) .395 was found higher than the 0.05 level of significance ( $p > 0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 5:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Mental Toughness on the sub-Variable Motivation.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	4.133	2	2.156	1.899	.178
Within Groups	63.761	57	1.143		
Total	67.983	59			

\*Significant at 0.05

It can be seen from table-5 that insignificant differences were found with regard to the sub-variable Motivation among male baseball players District, State and National as the P-value

(Sig.) .178 was found higher than the 0.05 level of significance ( $p>0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 6:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Overall Mental Toughness.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	2.465	2	1.456	.359	.765
Within Groups	227.002	57	3.990		
Total	228.834	59			

\*Significant at 0.05

It can be seen from table-6 that insignificant differences were found with regard to the variable Overall Mental Toughness among male baseball players District, State and National as

the P-value (Sig.) .765 was found higher than the 0.05 level of significance ( $p>0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 7:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Emotional Maturity on the sub-Variable Emotional Unstability.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	12.003	2	6.876	.224	.832
Within Groups	1687.100	57	28.746		
Total	1706.193	59			

\*Significant at 0.05

It can be seen from table-7 that insignificant differences were found with regard to the sub-variable Emotional Unstability among male baseball players District, State and National as

the P-value (Sig.) .832 was found higher than the 0.05 level of significance ( $p>0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 8:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Emotional Maturity on the sub-Variable Emotional Regression.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	167.365	2	82.656	3.768	.376
Within Groups	1285.760	57	23.361		
Total	1448.103	59			

\*Significant at 0.05

It can be seen from table-8 that insignificant differences were found with regard to the sub-variable Emotional Regression among male baseball players District, State and National as

the P-value (Sig.) .376 was found higher than the 0.05 level of significance ( $p>0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 9:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Emotional Maturity on the sub-Variable Social Maladjustment.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	29.0980	2	15.010	.678	.565
Within Groups	1395.210	57	24.023		
Total	1424.230	59			

\*Significant at 0.05

It can be seen from table-9 that insignificant differences were found with regard to the sub-variable Social Maladjustment among male baseball players District, State and National as

the P-value (Sig.) .565 was found higher than the 0.05 level of significance ( $p>0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 10:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Emotional Maturity on the sub-Variable Personality Disintegration.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	10.820	2	5.630	.189	.876
Within Groups	1748.050	57	30.654		
Total	1757.734	59			

\*Significant at 0.05

It can be seen from table-10 that insignificant differences were found with regard to the sub-variable Personality Disintegration among male baseball players District, State and National as the P-value (Sig.) .876 was found higher than the

0.05 level of significance ( $p>0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 11:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Emotional Maturity on the sub-Variable Lack of Independence.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	.556	2	.265	.016	.988
Within Groups	944.400	57	16.403		
Total	941.913	59			

\*Significant at 0.05

It can be seen from table-11 that insignificant differences were found with regard to the sub-variable Lack of Independence among male baseball players District, State and National as the P-value (Sig.) .988 was found higher than the

0.05 level of significance ( $p > 0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

**Table 12:** Analysis of Variance (ANOVA) results among District, State and National Male Baseball Players with regard to Emotional Maturity.

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	265.013	2	133.018	.363	.765
Within Groups	24576.940	57	431.547		
Total	24811.003	59			

\*Significant at 0.05

It can be seen from table-11 that insignificant differences were found with regard to the variable Emotional Maturity among male baseball players District, State and National as the P-value (Sig.) .765 was found higher than the 0.05 level of significance ( $p > 0.05$ ). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

### Practical application

The study will be considerably helpful to comprehend the Mental Toughness and Emotional Maturity level existing among male baseball players (District, State and National). The sports psychologists and coaches working with these areas will drive benefit from the findings of the present research and they can integrate the Mental Toughness and Emotional Maturity variables in their training schedule from the very initial stages.

### Conclusion

Summarizing from the above findings we can say that insignificant differences were found among male baseball players (District, State and National) on the sub-variables of Mental Toughness i.e., Reboundability, Ability to Handle Pressure, Concentration, Confidence, Motivation and Overall Mental Toughness. Concludingly from the above findings that insignificant differences were present among male baseball players (District, State and National) on the sub-variables of Emotional Maturity i.e., Emotional Unstability, Emotional Regression, Social Maladjustment, Personality Disintegration, Lack of Independence and Emotional Maturity (Total).

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