



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2019; 5(2): 216-218
www.allresearchjournal.com
Received: 25-12-2018
Accepted: 27-01-2019

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A meta-study on mental toughness among individual sports, team sports and e-sports

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Abstract

Study Aim: To find out the difference of Mental Toughness among Individual Sports, Team Sports and E-Sports.

Subjects: The study included a total of 100 participants of age group 18-25 years from affiliated colleges of Guru Nanak Dev University, Amritsar, Punjab.

Variables: To determine the level of Mental Toughness of selected subjects for the present study, the Mental Toughness tool developed by Goldberg (1990) was administered.

Procedure: This scale is a standardized tool which has already been used in many research/psychological investigations. After consulting relevant literature, a 30 items self report inventory with five sub-scales was used to measure mental toughness. The five fundamental areas of mental toughness viz. (a) Reboundability (b) Ability to handle pressure (c) Concentration (d) Confidence (e) Motivation.

Statistical Application: The following parametric statistical technique was used: ANOVA (Analysis of Variance), Least Significant Difference (LSD) test and the level of significance was set at 0.05.

Conclusion: The results revealed No significant differences were found on the sub-variables: Reboundability, Ability to Handle Pressure, Concentration, Confidence and Motivation among Individual Sport, Team Sport and E-Sports male players studying in affiliated colleges of Guru Nanak Dev University, Amritsar, Punjab.

Keywords: Reboundability, ability to handle pressure, concentration, confidence, motivation

1. Introduction

Gucciardi *et al.* (2009) ^[1] suggest that mental toughness is more a function of environment than domains, and as such, mental toughness is potentially important in any environment that requires performance setting, challenges, and adversities. Mental toughness, “a state-like psychological resource that is purposeful, flexible, and efficient in nature for the enactment and maintenance of goal-directed pursuits” ^[2]. In order to examine antecedents of mental toughness variability, it is important that the state-like nature of the construct first be evidenced ^[3, 4]. For example, notable variability in mental toughness has been found to be present in elite youth tennis players across various situations ^[5]. Cooper, Wilson and Jones ^[6] suggested that mental toughness varied across states within a series of ultra-endurance events, and also reflected upon potential antecedents (i.e., influencers) to the variation in this state-like nature of mental toughness. Identified influencers included emotional responses (anger, love), competition, encouragement, and a sense of ‘last chance’ opportunity. Jones and colleagues (2002) provided some empirical data on what makes up mental toughness. Taking a more theoretical approach, Clough, Earie and Sewell (2002) hypothesized four critical construct in their 4C model defining mental toughness.

- Control-capacity to feel and act as if one can could exert and influence in the situation in question.
- Commitment-tendency to take an active role in events
- Challenge-perception of change as an opportunity to grow and develop rather than as a threat.
- Confidence-strong sense of self-belief.

Combining these elements, mental tough athletes are people who have a high sense of self-belief and an unshakeable faith that they can control their own destiny and who can remain relatively unaffected by competition or adversity.

The importance of mental skill is seen in the highly valued attribute of mental toughness. For example, in a study of elite athletes, Scully and Hume (1995) found that mental toughness was perceived to be the most important determinant of success in sport.

To measure the level of mental toughness of subjects for the present study, the Mental Toughness tool developed by Goldberg (1990) was administered. This tool consists of five sub-variables namely:

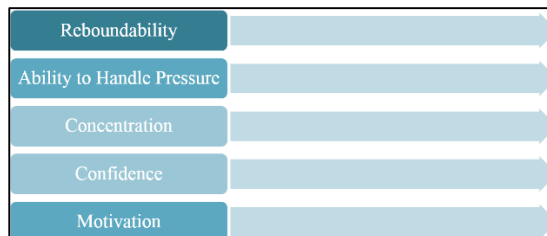


Fig 1: Mental Toughness Tool.

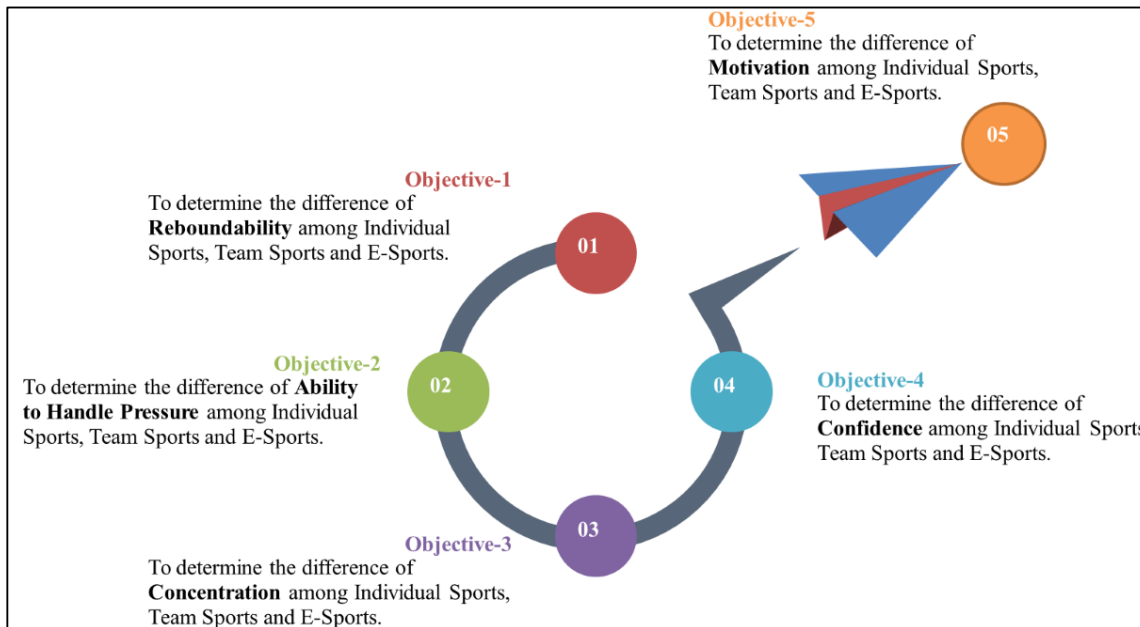


Fig 2: Objectives of the study.

2. Methods

2.1. Subjects

The study included a total of 100 participants of age group

18-25 years from affiliated colleges of Guru Nanak Dev University, Amritsar, Punjab.

Table 1: Details of subject’s (i.e., Individual Sport, Team Sport and E-Sports) of Guru Nanak Dev University, Amritsar (N=100).

Guru Nanak Dev University, Amritsar (N=100)					
Individual Sport (N ₁ =44)	Athletics (12)	Archery (12)	Gymnastics (06)	Badminton (7)	Chess (7)
Team Sports (N ₂ =36)	Volleyball (12)		Kabaddi (12)		Handball (12)
E-Sports (N ₃ =20)	E-Sports (20)				

2.2. Variables

To determine the level of Mental Toughness of selected subjects for the present study, the Mental Toughness tool developed by Goldberg (1990) was administered. This tool consists of five sub-variables namely:



Fig 3: Mental Toughness tool developed by Goldberg (1990).

3. Procedure

This scale is a standardized tool which has already been used in many research/psychological investigations. After consulting relevant literature, a 30 items self report inventory with five sub-scales was used to measure mental toughness. The five fundamental areas of mental toughness viz. (a) Reboundability (b) Ability to handle pressure (c) Concentration (d) Confidence (e) Motivation. Each dimension measured by six questions, with ‘Yes’ or ‘No’ by a tick mark responses. The questionnaire is suitable for the age group as selected for the study.

4. Statistical Application

The following parametric statistical technique was used:-

- ANOVA (Analysis of Variance).
- Least Significant Difference (LSD) test.
- The level of significance for this was set at 0.05.

5. Results

Table 2: Analysis of variance (ANOVA) results among Individual Sport, Team Sport and E-Sports male players with regard to the sub-parameter Reboundability.

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.872	2	.936	1.136	.325
Within Groups	79.968	97	.824		
Total	81.840	99			

Table 3: Analysis of variance (ANOVA) results among Individual Sport, Team Sport and E-Sports male players with regard to the sub-parameter Ability to Handle Pressure.

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.256	2	.628	.422	.657
Within Groups	144.454	97	1.489		
Total	145.710	99			

Table 4: Analysis of variance (ANOVA) results among Individual Sport, Team Sport and E-Sports male players with regard to the sub-parameter Concentration.

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.341	2	.671	.604	.548
Within Groups	107.659	97	1.110		
Total	109.000	99			

Table 5: Analysis of variance (ANOVA) results among Individual Sport, Team Sport and E-Sports male players with regard to the sub-parameter Confidence.

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.889	2	.945	.977	.380
Within Groups	93.821	97	.967		
Total	95.710	99			

Table 6: Analysis of variance (ANOVA) results among Individual Sport, Team Sport and E-Sports male players with regard to the sub-parameter Motivation.

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.948	2	2.474	1.495	.229
Within Groups	160.492	97	1.655		
Total	165.440	99			

- It has been observed from Table 2 that insignificant differences have been found with regard to the sub-parameter Reboundability among Individual Sport, Team Sport and E-Sports male players.
- It has been observed from Table 3 that insignificant differences have been found with regard to the sub-parameter Ability to Handle Pressure among Individual Sport, Team Sport and E-Sports male players.
- It has been observed from Table 4 that insignificant differences have been found with regard to the sub-parameter Concentration among Individual Sport, Team Sport and E-Sports male players.
- It has been observed from Table 5 that insignificant differences have been found with regard to the sub-parameter Confidence among Individual Sport, Team Sport and E-Sports male players.
- It has been observed from Table 6 that insignificant differences have been found with regard to the sub-

parameter Motivation among Individual Sport, Team Sport and E-Sports male players.

6. Conclusion

The results revealed No significant differences were found on the sub-variables: Reboundability, Ability to Handle Pressure, Concentration, Confidence and Motivation among Individual Sport, Team Sport and E-Sports male players studying in affiliated colleges of Guru Nanak Dev University, Amritsar, Punjab.

7. References

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