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Comparison of mental toughness and achievement goal orientation among state level chess players in Kerala

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Abstract

The purpose of this study was to examine differences in mental toughness and achievement goal orientation based on gender and playing time format. Two hundred and forty state level chess Players (120 males 120 females) completed the Sports mental toughness questionnaire (SMTQ) and the Task and Ego Orientation in Sport. Based on the different playing time format, participants were classified as Classic (n = 80), Rapid Group (n = 80), and Blitz Group (n = 80) based on their preference of playing time format. Results indicated that males scored higher than females on mental toughness. Blitz group scored higher than Classic and Rapid groups on mental toughness. Task orientation was positively related to mental toughness. While coaches should strive to enhance the mental toughness in all of their players, special emphasis should be placed on promoting the mental toughness of female players and Classic players.

Keywords: mental toughness, achievement goal orientation, playing time format, gender, classic, rapid and blitz

Introduction

Mental Toughness is a compilation of values, attitudes, behaviours, and emotions that enable you to persevere and overcome any obstacle, adversity, or pressure experienced, but also to maintain concentration and motivation when things are going fine to constantly accomplish your goals. There is considerable number of studies on the psychological parameters that affecting the player's sportive achievement and their sport life, one of them is mental toughness. Initially, researchers, who attempted to understand what mental toughness is, collected data that included participant perspectives about this concept and those studies have been conducted across a number of different sports disciplines such as football, rugby, cricket, soccer and basketball etc. The analysis of these qualitative studies highlights an important aspect in relation to mental toughness that is the concept is fairly open to individual interpretation. Mental toughness is being more dependable and better than your opponents in remaining indomitable, resolute, and positive and in control under pressure. Mentally tough individuals tend to be gregarious and sociable; as they are able to remain composed and stress-free, they are spirited in many tough situations and have lower anxiety levels than others. With a high sagacity of self-assurance and an unshakeable reliance that they control their own fortune, these individuals can remain comparatively unaffected by antagonism or hardship. Mental toughness is the capability to attain personal goals in the facade of pressure from a wide variety of different stressors. Researchers consider that Mental toughness is a fairly stable arrangement, although it may change in the face of certain types of experience, this can be named as similarity. In addition to the Mental Toughness, Achievement Goal Theory has also been instrumental in advancing our understanding of Mental Toughness in sport. AGT focuses on how people describe achievement and proficiency and suggests that there are two divergent goal orientations: task orientation and ego orientation. A task-oriented individual defines success Flourishing Creativity & Literacy and competence using self-referenced criteria such as improvement, mastery, and effort. On the other hand, someone who is ego-oriented gauges accomplishment based on normative comparisons, such as outperforming others. Task orientation is associated with adaptive behaviours, such as persistence, effort, enjoyment, and interest.

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Conversely, a high ego orientation combined with low perceived competence is often related to maladaptive behaviours such as task avoidance, low persistence, and little effort. It is important to understand that task and ego orientations are separate, distinct constructs in which a person can express some degree of each orientation.

Method

Subjects

Two hundred and forty state level chess Players (120 males 120 females) completed the Sports mental toughness questionnaire (SMTQ) and the Task and Ego Orientation in Sport. Based on the different playing time format, participants were classified as Classic (n = 80), Rapid Group (n = 80), and Blitz Group (n = 80) based on their preference of playing time format.

Tools

1. Sports mental toughness questionnaire (SMTQ)

The SMTQ is a 14-item instrument was established to ascertain athletes' mental toughness levels. SMTQ items were constituted by using raw data themes and quotes from qualitative studies of mental toughness those were made previously. The participants had to respond to items on a four point Likert-type scale ranging from "not at all true" 1 to "very true" 4. Sample items included "I interpret threats as positive opportunities" (confidence); "I give up in difficult situations" (constancy); and "I am overcome by self-doubt" (control). SMTQ has three sub-dimensions: 6 items for confidence ($\alpha = .80$), 4 items for constancy ($\alpha = .74$), and 4 items for control ($\alpha = .71$). Items 1, 5, 6, 11, 13, 14 measures Confidence and this sub-dimension assesses athletes' belief in their own abilities to achieve goals and be better than others. Items 3, 8, 10, 12 measures Constancy and this sub-dimension reflect determination, individual responsibility, an unyielding attitude, and ability to concentrate. Items 2, 4, 7, 9 measures Control and this sub-dimension is concerned with the perception that one is personally influential and can bring about desired outcomes with particular reference to controlling emotions.

2. Task and Ego Orientation in Sport Questionnaire (TEOSQ)

Participants' achievement goal orientation was measured by the Task and Ego Orientation in Sport Questionnaire (TEOSQ). It measures task (7 items) and ego (6 items) orientation in sport. The questionnaire instructed participants to reflect upon a time when they felt most successful in sport and indicate their agreement (1 = strongly disagree, 5 = strongly agree) for each of the 13 items. Example questions included "I feel successful in sport when I am the only one who can do the play or skill" (ego orientation) and "I feel successful in sport when I learn

a new skill by trying hard" (task orientation). Previous research has found the TEOSQ to have acceptable validity and reliability. Cronbach's alphas for the ego (.79) and task (.75) subscales demonstrated acceptable internal consistency.

Procedure

Participation in this investigation was voluntary. After obtaining informed consent, all of the chess players completed the Sports mental toughness questionnaire (SMTQ) and task and ego orientation in sport questionnaire (TEOSQ) individually at the beginning of a competition. The chess players were assured that their answers would remain anonymous and confidential.

Statistical analysis of the data

Multivariate analysis of variance (MANOVA) was conducted to determine differences between the different groups in the selected variables under the study.

Results

Multivariate analysis of variance (MANOVA) was conducted to determine significant differences between the chess players in mental toughness and achievement goal orientation. Results indicated that males scored higher than females on mental toughness ($F(2, 238) = 4.02, p = .047$, partial $\eta^2 = .020$). Female players showed higher than males in achievement goal orientation ($F(2, 238) = 3.29, p = .040$, partial $\eta^2 = .042$). Blitz group scored higher than Rapid and Classic groups on mental toughness ($F(3, 77) = 6.92, p = .001$, partial $\eta^2 = .085$) and achievement goal orientation. ($F(3, 77) = 6.03, p = .003$, partial $\eta^2 = .075$). The mean and standard deviation of mental toughness Achievement Goal Orientation of Chess Players by Gender are presented in Tables 1 & 2. The mean and standard deviation of mental toughness Achievement Goal Orientation of Chess Players by Playing Time Format are presented in Tables 3&4.

Table 1: Mental toughness of Chess Players by Gender

Subscales	Male		Female	
	Mean	SD	Mean	SD
Confidence	12	1.96*	11	1.75
Consistency	14	1.88*	13	1.51
Control	10	1.80*	9	1.38

* $p < .95$

Table 2: Achievement Goal Orientation of Chess Players by Gender

Subscales	Male		Female	
	Mean	SD	Mean	SD
Task Orientation	3.85	0.54	4.19	0.41*
Ego Orientation	2.94	0.78	3.25	0.73*

* $p < .95$

Table 3: Mental toughness of Chess Players by Playing Time Format

Subscales	Blitz Time Format Chess Players (N=80)		Rapid Time Format Chess Players (N=80)		Classic Time Format Chess Players (N=80)	
	Mean	SD	Mean	SD	Mean	SD
Confidence	13.17	1.96*	12.77	1.96	12.07	1.96
Consistency	15.59	1.88*	14.89	1.88	14.59	1.88
Control	11.93	1.80*	10.95	1.80	10.33	1.80

* $p < .95$

Table 4: Achievement Goal Orientation of Chess Players by Playing Time Format

Subscales	Blitz Time Format Chess Players (N=80)		Rapid Time Format Chess Players (N=80)		Classic Time Format Chess Players (N=80)	
	Mean	SD	Mean	SD	Mean	SD
Task Orientation	4.85	0.54*	4.19	0.41	3.95	1.37
Ego Orientation	3.94	0.78*	3.25	0.73	3.05	0.84

*p<95

Discussion

Results indicated that males scored higher than females on mental toughness and the female players showed higher than males in achievement goal orientation. From the findings and through the discussion, the researcher able to find out that Blitz Players possessed higher in mental toughness rather than Rapid and Classic Players. Mental toughness is the capability to attain personal goals in the facade of pressure from a wide variety of different stressors. Mental toughness may be a fairly stable arrangement, although it may change in the face of certain types of playing time formats experience. Blitz group scored higher scores than rapid and classic groups on achievement goal orientation. Results revealed that male chess players were mentally tougher than female chess players. This is not surprising given male chess players typically display higher self-confidence than female chess players. One explanation suggested for gender differences in mental toughness may be that males are boastful and think they will do better than they do. The results also showed that female chess players exhibited more achievement goal orientation than male chess players. The female players may be more task-oriented than male players and they define success flourishing creativity & literacy and competence using self-referenced criteria such as improvement, mastery, and effort. On the other hand, male players define accomplishment based on normative comparisons, such as outperforming others. The results showed that chess players of blitz time format displayed more mental toughness and achievement goal orientation than the players of rapid and classic time format.

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