



Goal Orientation and Mental Toughness among Combat Sports: A Comparative Analysis

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Abstract

The present study compared different combat sports on goal orientation and mental toughness. For this purpose, 640 inter-university athletes from Boxing ($n_1=160$), Wushu ($n_2=160$), Kick Boxing ($n_3=160$), and Taekwando ($n_4=160$), within the age range of 17-25 years and from All India Inter-University Championships, were selected as respondents. Goal Orientation and mental toughness were measured using Task and Ego Orientation in Sport Questionnaire (TEOSQ) developed by Duda and Nicholls (1989; 1992) and the Mental Toughness Questionnaire (MTQ48) developed by Clough et al. (2000). One Way ANOVA was applied on the data to find out the between and within-subject differences. The results revealed statically significant differences among the groups.

Keywords: Goal Orientation, Mental Toughness, Boxing, Wushu, Kick Boxing, Taekwando

INTRODUCTION

Psychology has strongly focused on understanding psychological principles underlying individual differences. With the advent of sports psychology having at its core the view of the human being as a capable and productive being, a significant paradigm shift occurred in which human potential, striving for growth, and moving towards peak performance became the primary concern. Probably, it was a quantum leap from frailty to success, from misery to happiness, and from disorder to perfection, getting the rightful focus.

Irrespective of the sport, an athlete's success or failure depends on physical and psychological abilities (Nideffer, 1976). Everyone is born with specific physical and psychological strengths and weaknesses, but skills can be learned and developed. Being a champion requires mental skills which should be systematically practiced and integrated with physical abilities (Weinberg & Gould, 1999). The effect of the psychological aspect of sports and physical activities has extensive research. Being a player in the team, the team sport has an effect compared to an individual sport. Team cohesion, group dynamics, etc., play a vital role in making an individual's mental strength. Coaches and athletes have been searching for mental skills that will enhance their competitive edge over the competition. A literature review pointed to mental toughness, goal orientation, and sports motivation as essential determinants of peak athletic performance. Gould et al. (1987) reported that

82 percent of wrestling coaches ranked mental toughness as the primary quality of competitive success. Williams (1998) denoted that mental toughness might be more critical in determining the outcome of a sporting event than factors such as speed and ability.

GOAL ORIENTATION

Concepts of task and ego involvement: It is generally held that the achievement goal framework applies to settings where perceptions of competence are relevant to achievement striving (Nicholls, 1989). The abundance of studies stemming from various models of motivation has indicated that one's perceived ability is salient in athletic settings, including the particular context of youth sport (Roberts, 1984, 2001). Achievement goal theory assumes that, besides perceptions of ability, it is critical to consider how individuals judge their level of competence (Nicholls, 1984, 1989). Nicholls (1984), in particular, proposed that there are two significant ways of judging ability, which, in turn, underpin task versus ego achievement goals. When in a state of task involvement (i.e., when focused on a task goal), young athletes process their ability in a self-referenced manner: they feel competent and, therefore, successful concerning goal accomplishment when realizing learning, personal improvement, task mastery, and/or doing one's best. When ego-involved, a young sports participant would feel a sense of (high) competence and subsequent subjective success when she/he exhibited superior ability by either outperforming others or performing equivalently but with less effort. Central to the predictions originating from achievement goal theory is the premise that these states of task and ego involvement resulting qualitatively different ways of experiencing achievement endeavors (Duda & Hall, 2001). This is because the concerns of a task-versus ego-involved young athlete are dissimilar, i.e., developing and improving one's competence versus displaying or proving one's ability (Duda & Ntoumanis, 2005).

Achievement goal theory (Ames, 1992; Dweck, 1999; Nicholls, 1989) also assumes that a focus on task-involved goals will correspond to adaptive achievement patterns (e.g., exerting effort in training and competitions, maintaining one's involvement in sport, performing optimally given one's level of sports ability), regardless of whether youngsters are confident of their athletic abilities or question their competence. At least concerning short-term, achievement-related indices (Duda, 2001), an emphasis on ego-involved goals is expected to link to positive cognitions, emotions, and behaviors. However, when an ego goal focus is coupled with perceptions of low ability, maladaptive achievement patterns in after-school programs are hypothesized (e.g., not giving one's best effort, performance impairment, dropping out of sport). Overall, these predictions emanating from AGT have been supported in research conducted in youth sports settings (Duda, 1996, 2001; Roberts, 2001).

Table 1: The process and outcome goals in sport (Steyn, 2001)

| Winning A | Winning X |
|---|---|
| <ul style="list-style-type: none"> • Technical and self-improvement • Exercise and health • Enjoyment of game • Development of concentration • The ability to remain calm and task orientated under pressure • The development of self-knowledge through sport • The expression of physical and personal potential on all levels | <ul style="list-style-type: none"> • Trophies and prizes • Prestige and recognition • Approval of others • Dominating and defeating others • Proving oneself • Pleasing parents, teachers, coaches, and friends • The prestige of the school |

To explain and understand the concepts of ego and task orientation, Table 1 demonstrates two different definitions of success: The 'winning A' column is a process and implies that one should go through this process before reaching the column 'winning X' as an outcome. The process (winning A) contains certain characteristics needed to reach the outcome, for example, exercise and health, the ability to remain calm and task orientated under pressure, development of concentration, and the expression of physical and personal potential on all levels. The outcomes (winning X) contain issues such as trophies and prizes, the approval of others, and dominating and defeating others (Steyn, 2001).

Traditionally a person will choose 'winning X' and will define success as receiving an award when one has outperformed one's competitors. In this way, one can physically feel and see success. Therefore, 'winning A' is not the preferred outcome. In reality, for example, one should first exercise correctly and live healthier before one can defeat one's opponent or receive a reward. One could connect the column 'winning A' with being task orientated and the 'winning X' column with being ego orientated. Task-orientated athletes are hard workers and are not obsessed with the rewards at the end of the process. They are more focused on the process goals that must be reached, and most importantly, they are there for the game's enjoyment. Ego-orientated athletes compete to receive rewards and prove to themselves and others that they have the superior ability (Steyn, 2001). In conclusion, for the best development, an athlete should embrace and see success in both 'winning A' and 'winning X'. This also applies to the criteria of failure.

Cox (2002) states that at the ages of 11 and 12, a child has developed to be either task or ego orientated, depending on the situations he or she has been exposed to and reacted to. When an environmental factor causes a person to focus on social comparison, one can assume that he or she is ego orientated. However, when a situation causes someone to focus on personal mastery and improving his or her performance, the assumption is that the person is task-orientated (Cox, 2002). At this stage (11-12 years) of their development, they realize that despite their effort, some athletes have more potential or talent than others (Harwood, 2005).

MENTAL TOUGHNESS

Mental toughness is one of the most critical determinants of peak athletic performance. Subsequently, sports psychologists and coaches have attempted to design programs for developing mental toughness. One of the potential problems with developing mental toughness programs is that the components of mental toughness can vary from sport to sport. Furthermore, many of the studies, which have investigated the characteristics of

mental toughness and their development, have done so without controlling for the sports context. So far, only two studies have researched the attributes of mental toughness within a single sport, producing variations in mental toughness attributes. Without a clear framework to guide the development of mental toughness training programs, instructions for developing the concept could be ambiguous and misleading. Moreover, the development of mental toughness may be specific to the context to which the construct applies. Therefore, the framework for developing such programs may be improved by considering the specificity of the sports context (Minnix, 2010).

Recent scientific inquiries have led to a complete understanding of mental toughness (Bull et al., 2005; Connaughton et al., 2008; Creasy, 2005; Jones et al., 2002, 2007; Stratton, 2004; Thelwell et al., 2005). Investigators have defined mental toughness as: "Generally, superior ability to cope better than your opponents with the many demands and related pressures that occur at the highest level in sport" (Connaughton et al., 2008). Moreover, To define the specific boundaries of mental toughness, researchers have attempted to isolate the distinct characteristics of the construct. Jones et al. (2002) identified twelve mental toughness characteristics. In 2004, Stratton (2004) further developed this list of characteristics, adding eight. Creasy (2005) consolidated the characteristics found by Jones et al. (2002) and Stratton (2004). More recently, Jones et al. (2007) found that 30 characteristics were necessary to describe the construct adequately.

Gucciardi et al. (2009) defined mental toughness as a set of values, approaches, perceptions, and inherent emotions acquired through experience with sports in general or a specific sport in particular as a procedure adopted by an individual to examine and respond to conflicts, challenges, and pressures. Clough Earle and Sewell (2002) proposed the 4C's model of mental toughness, including: (1) control (emotions and Life) which refers to inclination towards emotions and behaviors as if the individual is influential, (2) commitment which refers to substantial involvement in the task at hand, (3) challenge which refers to seeking opportunities for personal growth, and (4) self-confidence (in abilities and interpersonal) which refers to high self-confidence and resolute faith in one's ability to achieve success. According to Crust (2007), other important features of mental toughness include effective coping with pressure and hardships, recovering from retreats and failures, persistence and refusal to submit, insensitivity or flexibility, overcoming pressure, and bearing superior mental skills (Ghasemi et al., 2012).

OBJECTIVE

1. To find out the differences among Inter-University level athletes of Boxing, Wushu, Taekwondo, and Kick Boxing on Mental Toughness, Goal Orientation, and Sports Motivation.

HYPOTHESIS

1. There will be significant differences among Inter-University level athletes of Boxing, Wushu, Taekwondo, and Kick Boxing on Mental Toughness, Goal Orientation, and Sports Motivation.

METHODOLOGY:

The sample of the study consisted of 650 respondents from All India Inter-University Competitions participants. The sample was comprised of Boxing ($n_1=160$), Wushu ($n_2=160$), Kick Boxing ($n_3=160$), and

Taekwondo ($n_4=160$) within the age range of 17-25 years. The sample will be taken from the All India Inter-University Competitions of respective games during 2017-2019. The sample was collected by using the purposive sampling technique. Goal Orientation and Mental Toughness were measured using Task and Ego Orientation in Sport Questionnaire (TEOSQ) developed by Duda and Nicholls (1989; 1992) and the Mental Toughness Questionnaire (MTQ48) developed by Clough et al. (2000).

RESULTS:

Table-1: One Way Analysis of Variance of Boxers, Wushu, Kick Boxers, and Taekwando athletes on Goal Orientation and Mental Toughness

| Variables | | Sum of Squares | df | Mean Square | F | Sig. |
|---------------|----------------|----------------|-----|-------------|------|------|
| Ego | Between Groups | 3.97 | 3 | 1.32 | 2.09 | 0.10 |
| | Within Groups | 401.60 | 636 | 0.63 | | |
| | Total | 405.57 | 639 | | | |
| Task | Between Groups | 4.89 | 3 | 1.63 | 2.47 | 0.06 |
| | Within Groups | 419.70 | 636 | 0.66 | | |
| | Total | 424.59 | 639 | | | |
| Emotion | Between Groups | 161.49 | 3 | 53.83 | 2.46 | 0.06 |
| | Within Groups | 13917.22 | 636 | 21.88 | | |
| | Total | 14078.71 | 639 | | | |
| Life | Between Groups | 327.07 | 3 | 109.02 | 5.07 | 0.00 |
| | Within Groups | 13666.18 | 636 | 21.49 | | |
| | Total | 13993.24 | 639 | | | |
| Control | Between Groups | 875.08 | 3 | 291.69 | 4.18 | 0.01 |
| | Within Groups | 44395.53 | 636 | 69.80 | | |
| | Total | 45270.61 | 639 | | | |
| Challenge | Between Groups | 23.07 | 3 | 7.69 | 0.28 | 0.84 |
| | Within Groups | 17544.18 | 636 | 27.59 | | |
| | Total | 17567.24 | 639 | | | |
| Commitment | Between Groups | 387.38 | 3 | 129.13 | 2.86 | 0.04 |
| | Within Groups | 28691.48 | 636 | 45.11 | | |
| | Total | 29078.86 | 639 | | | |
| Ability | Between Groups | 197.03 | 3 | 65.68 | 2.08 | 0.10 |
| | Within Groups | 20092.68 | 636 | 31.59 | | |
| | Total | 20289.71 | 639 | | | |
| Interpersonal | Between Groups | 47.52 | 3 | 15.84 | 0.89 | 0.45 |
| | Within Groups | 11308.98 | 636 | 17.78 | | |
| | Total | 11356.49 | 639 | | | |
| Confidence | Between Groups | 400.55 | 3 | 133.52 | 1.61 | 0.19 |
| | Within Groups | 52787.32 | 636 | 83.00 | | |
| | Total | 53187.87 | 639 | | | |

The table 1 revealed that the groups differed significantly only on Life [$F(3, 639) = 5.07, p = 0.00$], Control [$F(3, 639) = 4.18, p = 0.01$] and Commitment [$F(3, 639) = 2.86, p = 0.04$]. No significant differences were found on all other sub-scales of Goal Orientation and Mental Toughness.

Table-2: Scheffe's Post-hoc Analysis of Boxers, Wushu, Kick Boxers, and Taekwando athletes on Goal Orientation and Mental Toughness

| Dependent Variable | (I) Game | (J) Game | Mean Difference (I-J) | Sig. |
|--------------------|-------------|-------------|-----------------------|------|
| Life | Boxing | Wushu | 1.18 | 0.16 |
| | | Kick Boxing | -0.84 | 0.46 |
| | | Taekwando | 0.13 | 1.00 |
| | Wushu | Boxing | -1.18 | 0.16 |
| | | Kick Boxing | -2.01* | 0.00 |
| | | Taekwando | -1.05 | 0.25 |
| | Kick Boxing | Boxing | 0.84 | 0.46 |
| | | Wushu | 2.01* | 0.00 |
| | | Taekwando | 0.96 | 0.33 |
| | Taekwando | Boxing | -0.13 | 1.00 |
| | | Wushu | 1.05 | 0.25 |
| | | Kick Boxing | -0.96 | 0.33 |
| Control | Boxing | Wushu | 1.18 | 0.66 |
| | | Kick Boxing | -2.08 | 0.18 |
| | | Taekwando | -0.51 | 0.96 |
| | Wushu | Boxing | -1.18 | 0.66 |
| | | Kick Boxing | -3.26* | 0.01 |
| | | Taekwando | -1.69 | 0.35 |
| | Kick Boxing | Boxing | 2.08 | 0.18 |
| | | Wushu | 3.26* | 0.01 |
| | | Taekwando | 1.56 | 0.42 |
| | Taekwando | Boxing | 0.51 | 0.96 |
| | | Wushu | 1.69 | 0.35 |
| | | Kick Boxing | -1.56 | 0.42 |
| Commitment | Boxing | Wushu | 2.01* | 0.07 |
| | | Kick Boxing | 0.66 | 0.85 |
| | | Taekwando | 0.23 | 0.99 |
| | Wushu | Boxing | -2.01* | 0.07 |
| | | Kick Boxing | -1.34 | 0.36 |
| | | Taekwando | -1.78 | 0.13 |
| | Kick Boxing | Boxing | -0.66 | 0.85 |
| | | Wushu | 1.34 | 0.36 |
| | | Taekwando | -0.44 | 0.95 |
| | Taekwando | Boxing | -0.23 | 0.99 |
| | | Wushu | 1.78 | 0.13 |
| | | Kick Boxing | 0.44 | 0.95 |

Table 2 the Scheffe's post-hoc analysis revealed that Kick Boxers scored higher than Wushu athletes on the Life sub-scale of Mental Toughness with a Mean Difference (I-J) score of 2.01. The table further revealed that Kick Boxers scored higher than Wushu athletes on the Control sub-scale of Mental Toughness with a Mean Difference (I-J) score of 3.26. Finally, Boxers scored higher than Wushu athletes on the Commitment sub-scale of Mental Toughness with a Mean Difference (I-J) score of 2.01.

DISCUSSION OF FINDINGS:

The results of the present investigation revealed that partial statistical differences were found while comparing Boxers, Wushu athletes, Kick Boxers, and Taekwando athletes. One-Way ANOVA revealed that the differences among the groups were found to be statistically significant only on Life, Control, and Commitment, which are sub-scales of Mental Toughness. There were no statistically significant differences among groups on Goal Orientation and other subscales of Mental Toughness. In line with the results of the

present study, Rawat and Bhisht (2019) found significant differences between racket sports and combat sports in the commitment/motivation variable but no significant difference in other variables. Slimani et al. (2016), in their research, suggest that MT will be more predictive of performance in those sports and the outcome of the competition. Guillén and Santana (2018) found that the results of their study appeared to indicate that from an early age, some differences regarding mental toughness could be found depending on the level of performance. In their study, Kuan and Roy (2007) found that athletes with high task /moderate ego goal profiles scored significantly higher on negative energy control and positive energy control. Successful performance outcomes in the competition were not a function of goal profile. The medallists scored significantly higher on self-confidence and negative energy control than the non-medallists.

CONCLUSION: It is concluded that few statically significant differences have been found among Boxing, wushu, kickboxing, and taekwondo athletes with regard to the variable mental toughness. However, the differences on goal orientation were not significant. This may be because the groups were homogenous in terms of their level and type of sports being studied.

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