

The study of cognitive and somatic anxiety in the elite karate women's posture

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Abstract: The main aim of the study was to investigate the effects of cognitive and physical anxiety on the posture of elite karate women. Twenty-two women athletes with the history of two-three years participation in the national karate team were randomly taken up in this study. The questionnaire 2 (CSAI-2) was used for data acquisition. The blood pressure and heartbeat of the subjects was recorded for measuring cognitive anxiety. Also, six question of the questionnaire was given to the subjects to answer them grading from one to five in which the number one indicating the minimum and five represent the maximum sensation in this regard. 10 to 45 minutes before the race and just after doing the race, this process is repeated again. The linear regression analysis was used for data analysis; the obtained findings did not show any significant difference between heart rate, blood pressure (Somatic anxiety) of elite karate-ka women and their posture in this regard.

[Torkfar A, Yadolazadeh A, Moghadasi M. **The study of cognitive and somatic anxiety in the elite karate women's posture**. *Life Sci J* 2013;10(3s):190-193] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 27

Key words: Karate, Cognitive anxiety, Somatic Anxiety, Posture.

1. Introduction

All people can remember some sport episodes by referring to their memories in which an athlete or a team has lost its own performance due to unfavorable mental conditions in the tournaments. For instance, it can be pointed to a karate athlete who practices all related skills accurately but the athlete cannot afford these skills and function in a right way. Now the question is that whether the athlete status will be better with practicing more physical skills and abilities or no?! It is usually unlikely that because the athlete is really ready to who his/her abilities and skills but the only problem may refer to the mental maintenance of the competitions and controlling anxiety from the excitement of the games that these conducting agents in an athlete lead to lose in a game but consulting and controlling the athlete temperament, cause these problems to be solved easily, in addition, all coaches and managers should spend enough time to remove their athletes mental/physical barrier making ready them to the high-advanced matches as well (Rokka et al., 2009; Stavrou et al., 2004); Basically, anxiety is stood in two forms: cognitive 1 and physical 2; cognitive anxiety is considered as a fear of participation in tournaments and it is measured by a self-responding form; but, physical (somatic) anxiety is an element that the physiological stress perceptions and physiological respond can influence on this process and is measured by blood pressure and heart rate (Anderson & Stafford, 1999; Davidson & Schwartz, 1976). There have been carried out many researches in relation to the role of anxiety in sport such as Martin et al. (1990). In this study the theory of multi-dimensions anxiety in sport has been pointed and it is

predicted the cognitive anxiety must be left in high and never fixed during a completion but physical (somatic) anxiety should have a stable impact on the posture as a negative effect (York & dalson, 1978; Martine, 1990; Martin & Winter, 2002). Espento and Cresli (2004) studied the cognitive anxiety and physical anxiety among 340 youngsters of London University and the results indicated that, there is a significant relationship between cognitive anxiety, physical anxiety and the posture (Espento & Cresli, 2004). Alexander et al. (2005) in an article titled "women, anxiety and inefficiency", concluded that cognitive and physical (somatic) anxiety cause to the reduction of the posture. Cheberlin et al. (2007) with measuring the excitement among tennis players in double and mono games concluded that in despite of the results in these matches, the degree of cognitive and somatic anxiety is high among the players and the posture has the highest anxiety effect in mono (single) tennis players (Cheberlin & Hamilton, 2007). It's clarified that the agents of somatic and cognitive anxiety are beyond of the effective factors than the posture; Today, based on the high-level of managers knowledge, we observe that the champions of Olympic tournaments spend their time on mentally exercises because they know the fact that ten top rankings of these tournaments stand in the same level and these top athletes can be different due to their mentally practices. This research is aim to determine the effects of cognitive and somatic anxiety on the elite karate women posture; in addition, these comprehensive information make all coaches and sport athletes potential aware to serve their bests in this regard.

2. Methods

The sample: twenty two women karate athletes with the history of national tournaments participation for 2-3 years were randomly participated as a sample in this study.

2.1. Research tool

A questionnaire based on anxiety competence status (CSAI-2) by Martin et al (1990) was prepared that its reliability was also estimated $r=0.99$; this questionnaire was divided into two groups: the first part relates to the registration of personal details, heartbeat and blood pressure; six questions were related to the degree of a subject's feelings from 1-5 in which the number one indicating the lowest and five as the highest; the questionnaire number two refers to the record of athlete's posture by coaches and karate performers skillfully.

3. Results

The main purpose of the present study was to evaluate the effects of night aerobic rhythms of karate men efficiency; therefore, twelve elite karate men ranging from 22.25 ± 2.76 year old, height: 177.12 ± 6.65 , weight: 68.83 ± 6.82 kg were selected as the subjects of the study for assessing their height, weight and sitting mood of the subjects in which these are shown in Table one. In order to determine whether cognitive and somatic anxiety can influence on the posture or no, the evaluations of relax time and the game, the relationships between the heartbeat and the mean performance efficiency on all players based on coach recognition were applied and these results indicated that there are relationships between systolic pressure and the posture correlation is $r=0.12$ ($n=22$, $p>0.05$), the relationship between heartbeat and the posture $r=0.02$ ($n=22$, $p>0.05$) and the relationship between cognitive anxiety and the posture $r=0.23$ ($n=22$, $p>0.05$) in which they indicate the lack of their relationship with the posture; also, no any relationship between cognitive, somatic and the posture observed in this regard.

Table 1: the statistical amounts of heartbeat and subject's posture

Sig	F	Mean	Df	Model
0.20	1.630	673.053	1	Regression
0.23	0.181	0.98	1	Regression

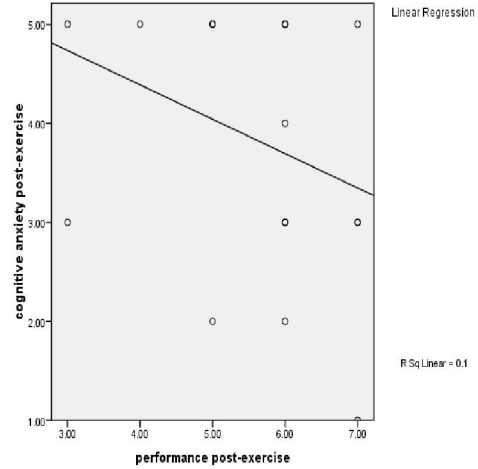


Figure 1. Linear regression of anxiety and cognitive performance after practice

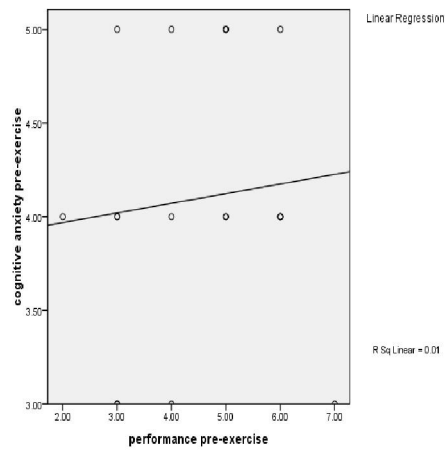


Figure 2. Linear regression of cognitive anxiety and performance before practice

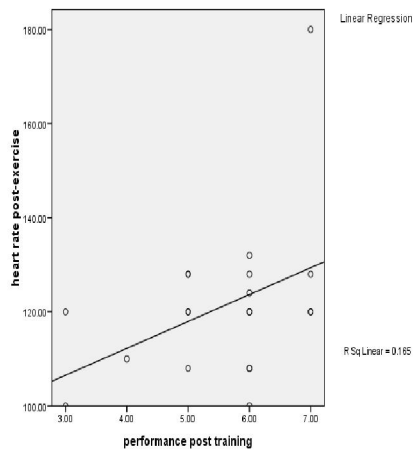


Figure 3. Linear regression physical anxiety (heart rate) and run after practice

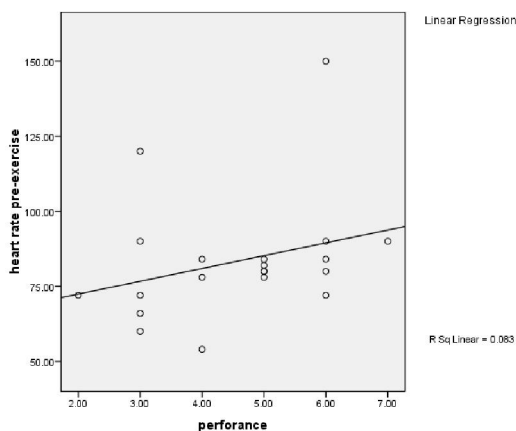


Figure 4. Linear regression physical anxiety (heart rate) and run before practice

4. Discussion and conclusion

The study of multi-dimensional theory of the anxiety showed that somatic and cognitive anxiety influence on the athletes and this impact may not be effective in the process of the posture in which we reached to similar results in this research as well; in the present study, there found a relationship between somatic with Martin et al (1990) research in which he considered somatic excitement as a negative respond to the practice conditions or the tournament atmosphere and these must have been negative stable effects on the posture; and cognitive anxiety is originated from the negative concerns on the frequent defeats and it must be stable and fixed during the tournaments (Figure 3 & 4); Also, there was no any significant relationship between cognitive anxiety and the posture found (Figure 1 & 2); this is matched with the researches of Miguel et al (1976), Enrico (2007) in which they reviewed the relationship between the anxiety and the posture and found that anxiety has an important impact on the posture but it does not match with Miguel's research (1999) (Anderson & Stafford, 1999; Enrique, 2007; Miguel, 1976). The studies showed that the level of the subject (novice or professional) is some extent effective on the posture in which it is matched with the results of Milalio (2006) and Yang (1996); they emphasized that the lack of skill and inexperience in performing the posture by an athlete may increase a fixed anxiety during his/her posture but skillful and experienced athletes show the lowest degree of anxiety during their functions (Davidson & Schwartz, 1976; Mellalieu et al., 2006). Generally, according to many different researches and their results, some useful classes and professional sessions can be prepared for coaches and athletes to get aware of the effects of anxiety in future; these can mitigate the

huge loads of stressful tensions or anxiety in sport setting; however, these need special planning by skillful psychologist and support of officials in this regard.

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1/8/2013