



The Cultural Influence of Anxiety on Student-athletes

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Abstract

Anxiety consists of cognitive and somatic components. The present study aims to examine the relationship between ethnic and anxiety. The sample consisted of 147 football players, with Malay (N=54), Chinese (N=45), Indian (N=31) and others (N=17). Competitive State Anxiety Inventory –2, used to collect the data. The result showed that Malay ethnic category exhibited higher levels of cognitive anxiety, whereas Indian ethnic exhibit a higher level of somatic anxiety. The findings of this study is beneficial to coaches, sport psychologist and counsellors in providing suitable coping strategies to Malay and Indian soccer athletes, to reduce anxiety and enhance their performance.

Keywords: Cognitive anxiety; somatic anxiety; football players; cultural.

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1.0 Introduction

Anxiety is a complex negative emotion with a variety of cognitive, physiological and behavioural symptoms (Martens, Vealey & Burton, 1990). Athletes have been the subject of many studies on anxiety (Sewell & Edmondson, 1996) since no other single psychological attribute has such a debilitating cause of performance (Martens et al., 1990). Athletes assumed anxiety to be deteriorated towards performance and resulted in decreases of performance (Weinberg & Gould, 2010; Raglin & Hanin, 2000). Therefore, it's not surprising, measurement of competitive anxiety has been receiving more attention, perhaps any other construct in sport and exercise psychology with several anxiety inventories have been proved to be excellent models for the development of psychometrically sound instruments (Martens et al., 1990).

Hann (2000) found "sports psychologist have long believed that high levels of anxiety during competition are harmful, worsening performance and even leading to dropout." In general, anxiety has the tendency to threaten a person's well being because it increases a person's worries and doubt (Landers, 1999). In sport, anxiety plays an important role on deteriorate athlete's performance (Cox, Qiu & Liu 1993; Ranglin & Hanin 2000; Ortiz 2006). Athletes realized the influence of anxiety in determining win or lose (Sanderson 1989). Furthermore, the majority of athletes who needed consultation were those who were suffering from anxiety, before and during sport events (Bull, 2000). Researchers have reported that over 50 percent of consultations on athletes at an Olympic Games or sport events were resulted of stress or anxiety problems (Murphy, 1988). Furthermore, aggression in sport is also relates to a higher level of anxiety (Berkowitz, 1990). Athletes also use drugs to reduce anxiety for enhanced performance (Weinberg & Gould, 2010).

Martens et al. (1990), define competitive anxiety as conscious feelings of apprehension and tension due mainly to the individual's perception of the present of upcoming situations as threatening. Most athletes view anxiety as a negative influence on performance (Duda, 1998). Those athletes, who experience high levels of anxiety, may fall sick, muscle tension, show aggressive behaviors face sleeping problems, low self-confidence and drop out of sport (Cox, 2010; Weinberg & Gould, 2010; Abel and Larkin, 1990).

Since anxiety is one of the main barriers to perform among athletes (Cox, Qiu & Liu, 1993), many psychological researches have been conducted on coping strategies to reduce the level of anxiety on athletes (Richards, 2004; Humara, 2001; Cox et al., 1993). Coping has been defined by Lazarus and Folkman (1984: 141) as "constantly changing cognitive and behavioral efforts to manage specific external or internal demands that are appraised as taking or exceeding the resources of the person". Coping strategies can be divided into somatic and cognitive techniques. Cognitive techniques are positive self-talk, physical activities, goal setting, thinking on practice, thought stopping, remember the worst-case scenario, focus on what you can control, imagery and simulation. While somatic techniques are meditation, breathing techniques, progressive relaxation, Autogenic training and biofeedback.

A few factors have been identified, as the sources of anxiety, of both cognitive and somatic. Initial evidence suggest among the sources of anxiety are fear of injury, presence of an audience, past unpleasant experiences, fear of losing negative evaluation, knowledge

of the opponent, uncertainty, playing at the opponent's place, high hope and perceived sport events as very important and specifically, these factors have been identified as the source of anxiety among athletes. Past studies has shown that ethnic identity has some implication on some psychological variables. Certain ethnic groups or cultural groups appear to be more prone to anxiety. Culture may be defined as the changing patterns of learning behaviour and the products of learning behaviour (including attitudes, values, knowledge and material objects) that are shared by and transmitted among members of society, it is an ongoing social heritage (Soyinka, 1991).

In Malaysia, Malay is the largest ethnic, 50.4% followed by Chinese 23.7%, indigenous 11%, Indians 7.1% and others minority ethnics 7.8% (East Malaysia) (Malaysia Demographics Profile 2012). Islam is the official religion which comprises 60.4% of the population. This is followed by Buddhist 19.2%, Christian 9.1%, Hindu 6.3%, Confucianism, Taoism, other traditional Chinese religions 2.6%, other or unknown 1.5% and none 0.8%. The languages (which resemble ethnic background) are Bahasa Malaysia (official), English, Chinese (Cantonese, Mandarin, Hokkien, Hakka, Hainan, Foochow), Tamil, Telugu, Malayalam, Panjabi and Thai (Malaysia Demographics Profile 2012). Furthermore, there are several indigenous languages widely spoken by the Iban and Kadazan ethnic in East Malaysia. Sometimes it's hard to believe that we remain in the same country, but their way of living differs dramatically from the others.

The main purpose of this study is to examine the levels of somatic and cognitive anxiety comparing to anxiety on different ethnic groups during sport events. Research concerned with different ethnics on psychological variables of athletes' is very rare in Malaysia. The present study aims to investigate the relationship on ethnic identities (Malay, Chinese, Indian and other minority ethnics) and symptoms of cognitive and somatic anxiety of football players. In other words, this research aims to explain the level of cognitive and somatic anxiety among different ethnics based on their background, in Malaysia.

2.0 Literature review

Competitive Anxiety had long held a paradoxical fascination for sports psychologist, coaches and athletes with whom they worked (Martens et al., 1990). Anxiety consists of two sub-components namely cognitive and somatic anxiety, have the major effect on performance (Martens et al., 1990; Jarvis, 2002). The cognitive is the mental component, characterized by negative expectations about success or self-evaluation, negative self-talk, negative thoughts, fear of failure, loss of self-esteem, low self-confidence, worries about performance, images of failure, inability to concentrate and disrupted attention (Ampofo-Boateng, 2009; Martens et al., 1990; Jarvis 2002). It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition (Ampofo-Boateng, 2009).

Somatic is the physiological element, activated by the autonomic arousals, negative symptoms such as feelings of nervousness, difficulty difficulties in breathing, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in the stomach (Martens, Vealey & Burton, 1990; Jones, 2000; Jarvis, 2002). When an athlete

encounter anxiety, the sympathetic nervous system, activated by the hypothalamus, regulates the body doing the following (Greenberg, 1999): increased heart rate, dilate coronary arteries, constrict Abdominal arteries, constrict abdominal arteries, dilate pupils, dilate bronchial tubes, increase strength of skeletal muscle, release glucose from the liver, increase mental activity, dilate arterioles deep in skeletal muscles and increase basal metabolic rate. The perceived physiological changes associated with somatic anxiety may be real or just an anxious person's mere perception of a change that does not exist (Ampofo-Boateng, 2009). The relationship between somatic and cognitive anxiety was explained best in Multidimensional Anxiety Theory. This theory explains that both cognitive and somatic anxiety effect performance. The basic premise of multidimensional conceptualizations of anxiety is that the two components of anxiety are independent because they have different antecedents and consequences, particularly that they differently influence behaviour (Martens et al., 1990). If an athlete is worried about the competition (cognitive anxiety), his or her performance will be poor. The relationship between somatic anxiety, where an athlete experiences physiological changes, such as, increases in the levels of muscle tension, nervousness, sweating and heartbeat and performance is however, similar to the inverted-U theory (Ampofo-Boateng, 2009). When increases in somatic anxiety are recorded in an athlete, it can result in arousal at an optimal level that results in the best performance results. However, an increase in arousal beyond or below the optimal level of arousal will lead to a decrease in athletic performance.

A variety of cultural comparative studies have been conducted in the field of psychology. Athletes from different ethnic groups showed different levels of cognitive and somatic anxiety in competition since lack of research in this area, this is still uncertain. Malaysia consists of many ethnic groups with different cultural background, namely Malays, Chinese and Indians, maintain separate cultural identities (Kahn, 1998). There are two ways that traditionally classify races biologically (Leonard, 1998): (a) a scheme based on observable physical characteristics (example skin colour, hair texture, eye shaped, lip thickness) called phenotypes and (b) a scheme based on unobservable genetic features (example blood type) called genotypes.

Until now, in Malaysia research on the levels of cognitive and somatic anxiety on different ethnic groups are rare. The anxiety level of somatic and cognitive on different ethnic groups in Malaysia, example, Malay, Chinese and Indian are still unknown. Different ethnic groups showed different levels of anxiety since culture plays an important role (Montgomery & Morris, 1994). Research, carried on Nepalese and Americans, showed that, cognitive anxiety on Nepalese are higher than Americans (Kohrt, Tol & Harper, 2007). Cross cultural studies showed that Latin's have higher somatic anxiety than any other ethnic groups (Canino, 2004). A study done by Carter, Sbrocco, Lewis and Friedman, (2001), showed lower levels of somatic and cognitive anxiety evident on African Americans. Research of Chapman and Woodruff-Borden, (2009) found that the European Americans had higher mean STAI-S scores than African Americans (35.47 and 32.88, respectively). Research of Kirkby and Liu (1999) showed North American athletes scored highest on Cognitive Anxiety and Somatic Anxiety, compared to Chinese athletes. Since none of the Malaysian research focus on levels of cognitive and somatic anxiety on the different ethnic groups, especially on soccer sport,

it's hard to predict the relationship between the level of anxiety and ethnics. Therefore this research can determine the level of anxiety between ethnic groups.

3.0 Methodology

The sample consisted of 147 football players, including Malay (N=54), Chinese (N=45), Indian (N=31) and other ethnic athletes (N=17). The sample was selected from the Malaysian Sports Council, athletes who participated in Malaysian Inter-Schools Sports Competition. Random sampling was used to select the samples. Participants' self-identify their racial group as 'Malay', 'Chinese', 'Indians' or 'others'. The instrument used to collect data was Competitive State Anxiety Inventory –2 (CSAI-2), using a 4- point Likert-type scale ranging from 1 (not at all) to 4 (very much so). The Competitive State Anxiety Inventory –2 (CSAI-2), has twenty seven item subscales measuring cognitive anxiety, somatic anxiety and self-confidence. Subscale scoring is additive although one somatic item has reverse scoring, yielding subscale totals ranging from 9 to .36. The 27-items inventory covered various anxiety provoking situations of somatic and cognitive anxiety. Somatic items are focus on physiological elements such as heart racing, nervousness, body tense, butterflies in the stomach, clammy hands and body tights. The cognitive symptoms evaluate the mental component such as pressure, perform poorly, self-doubt, worried, unable to concentrate and unsecure.

4.0 Results and Discussion

Level of cognitive competitive anxiety

One way ANOVA showed high significant differences of level of cognitive competitive anxiety on categories of ethnics of football players, $F(3,147) = 15.051$, $p < .01$ (Table 1).

Table 1: Level of Cognitive Competitive Anxiety based on ethnics of football players

Categories According to Ethnics of football players	Mean	Value-F	Value-p
Malay	20.1010	15.051**	0.000
Chinese	12.0363		
Indian	15.5637		
Others	14.7714		

** $p < 0.01$

Post-Hoc Tukey Test (Table 2) showed that the level of cognitive competitive anxiety of Chinese ethnic football players was lower if made a comparison with Malay ($p < 0.05$), Indian ($p < 0.05$) and other ethnics ($p < 0.05$). Furthermore, the level of cognitive competitive anxiety

on Indian ethnic football players was higher if compared to Chinese ($p<0.05$) and other ethnics ($p<0.05$), but it was lower compared to Malay ethnic ($p<0.05$). In addition, the level of cognitive competitive anxiety of Malay football players was higher if compared to Indian ($p<0.05$), Chinese ($p<0.05$) and other ethnics ($p<0.05$).

Table 2: Post Hoc Tukey: Level of Cognitive competitive Anxiety among Ethnic Categories of Football Players

Categories According to ethnic football players	Malay	Chinese	Indians	Others	N
Malays		*(2.453)	* (3.112)	* (2.117)	54
Chinese			* (2.221)	* (3.665)	45
Indians				*(1.331)	31
Others					17

* $p<0.05$

The result showed that the Malay football players exhibit higher level of cognitive anxiety compared to Indian and other ethnic, whereas Chinese football players showed the lowest levels of cognitive anxiety. Thus, Malay athletes' respond to stress primarily with increases in cognitive anxiety compared to other races, such as Indians and Chinese. This might be due to Malay culture. The mental component, typically termed cognitive anxiety, is closely related to worry and deals with 'negative expectation and cognitive concerns about oneself, the situation at hand and potential consequences' (Morris, Davis & Hatchings, 1981, p.541). Athletes can develop cognitive anxiety because of their inability to perform or fear of performance failure. Athletes also have the tendency to worry about the negative perception of their schoolmates, teachers, friends and fans, which can cause the level of cognitive anxiety increase. In sports, cognitive anxiety is manifested by negative expectations of success and subsequent negative self-evaluation that can prompt one or more of four types of negative mental consequences, including (a) worry and other negative thoughts, (b) images of disaster and other disturbing evaluation-related imagery, (c) concentration problems in which distractions prevent appropriate attention focus (d) control problems that vary from sight feelings of loss of control to feeling totally overwhelmed (Duda, 1998).

In Malaysia, no research has been done involving these four categories of ethnics, therefore the findings of the current research fail to make comparison with the previous research. Most of the research on cross-cultural study has been carried out in the United States and Europe, but limited attention shown on the other part of the world (Lewis-Fernandez, Hinton, Laria, Patterson, Hofmann, Craske, Stein, Asnaani & Liao, 2010).

The result of this research determined that certain symptoms of anxiety to "run together" in a particular culture. Research of Varela, Vernberg, Sanchez-Sosa, Riveros, Mitchell and Mashunkashey (2004) showed Mexican, Mexican American and European America, differed in their reporting of anxiety symptoms. This showed that significant cultural variations exist

in how cognitive relates to anxiety. The present research was also supported by the research done by Kirkby and Liu (1999) that the Chinese athletes were reported to show lower scores on Cognitive Anxiety.

It is important to note that the Competitive State Anxiety Inventory –2 (CSAI-2), only measures the symptoms of cognitive and somatic anxiety, it cannot reveal what causes a person to feel the emotions. The other limitation of this study can be the different ethnic groups might interpret the questionnaire differently. The differences between the cultures of the ethnic groups may play an important role in interpreting the items. Everything people see, touch, interact with and think is cultural (Nurlaila, Yuliar & Gharaei, 2013). Therefore, it can be expected that respondents from the various ethnic groups will respond differently on the same items.

Level of somatic competitive anxiety

One way ANOVA showed high significant differences of level of somatic competitive anxiety on categories of ethnics on football players, $F(3,147) = 14.881, p < .01$ (Table 3).

Table 3: Level of Somatic Competitive Anxiety based on ethnics of football players

Categories According to Ethnics of the football players	Mean	Value-F	Value-p
Malay	15.3172	14.881**	0.000
Chinese	13.2091		
Indians	18.2181		
Others	13.2267		

** $p < 0.01$

Post-Hoc Tukey Test (Table 4) showed that the level of somatic competitive anxiety of Chinese ethnic football players was lower compared to Malay ($p < 0.05$) and Indian ethnics ($p < 0.05$), but no differences with other minority ethnics ($p > 0.05$) present in Malaysia. Furthermore, the level of somatic competitive anxiety on Indian ethnic football players was higher when made a comparison with Chinese ($p < 0.05$), other ethnic ($p < 0.05$) and Malay ethnic ($p < 0.05$). In addition, the level of somatic competitive anxiety of Malay ethnic football players was higher compared to Chinese ($p < 0.05$) and other ethnics ($p < 0.05$), but lower than Indian ethnicity ($p < 0.05$).

Table 4: Post Hoc Tukey: Level of Somatic Competitive Anxiety among Ethnic Categories of MSSM football players

Football players According to Ethnicity	Malay	Chinese	Indians	Others	N

Malay		*(1.127)	* (1.332)	* (1.007)	54
Chinese			* (2.332)		45
Indian				*(1.337)	31
Others					17

*p<0.05

The result showed that the football players in the Indian ethnic exhibited the highest level of somatic anxiety compared to Malay ethnic and other minority ethnics, whereas Chinese football players showed the lowest levels of somatic anxiety.

Somatic anxiety refers to athletes' changes in their physiology, such as increased perspiration, difficulties in breathing, increased heart beat, changes in the brain wave, elevated blood pressure, increased urination, butterflies in the stomach, less saliva in the mouth and muscle tension. The sympathetic nervous system is stimulated by fear perception in the cerebral cortex, prompting an immediate stress response. Athletes, who have learned anxiety management skills, often respond to a greater degree to an anxiety symptoms but return to their resting rate sooner than those athletes, who are not trained in anxiety management.

In Malaysia, no research has been done involving these four categories of ethnics, therefore the findings of the current research fail to make a comparison with the previous research. However, it has proven that Chinese ethnic scored the lowest cognitive and somatic anxiety. Research of Ganiao, Armstronga, Casaa, McDermotta, Leea, Yamamotoa, Marzanao, Lopeza, Jimenez, Bellegoa, Chevillotea and Liebermana (2011), showed low level of the water in our body has the tendency to increase the anxiety, tension, mood and cognitive performance. Chinese food, such as sup contains lots of water, has the tendency to reduce anxiety. Water levels in our body determine how good we feel and have the tendency to reduce stress (Michelle, 2012). If made comparison to the food consumed by Indians and Malays, Chinese food contains more water. Anyway more research needs to be done to confirm this.

Indian foods are more salty than Malay and Chinese cuisine. A little research indicated that there is a positive relationship between salt and anxiety. Some people are genetically susceptible to sodium and will develop high blood pressure when they ingest too much of it. Indians also famous for drinking tea compared to other ethnic groups. Tea, contain the obromine and theophylline, which are sympathomimetics. These substance increased metabolism, makes one highly alert, and result in the release of stress hormones, which elevate the heart rate and blood pressure (Greenberg, 1999).

Besides the intake of food, other external factor might influence the level of anxiety, for example the religion. Since different ethnic groups adopt different religion, this might influence the level of somatic anxiety. Furthermore, ethnic differences on family background, household income and personal experiences, may also affect the levels of anxiety.

6.0 Conclusion

Research has shown that the ethnic background plays an important role to determine the

level of cognitive and somatic anxiety. The result showed that the Malay ethnic categories exhibited higher levels of cognitive anxiety, whereas Indian ethnic exhibit a higher level of somatic anxiety. The influence of cognitive anxiety as the mental component plays an important to influence the level of anxiety on Malays compare to Chinese and Indian. Contrary, the somatic anxiety as the physiological element contributes to influence the level of somatic anxiety on Indians, compared to Chinese and Malay ethnic groups.

This research showed that some ethnic groups may respond to stress primarily with increase in cognitive anxiety, whereas other ethnic groups might react with somatic anxiety responses to similar stresses. The findings of the research determined that the differences in the level of somatic and cognitive anxiety showed by different categories of ethnics in Malaysia. These differences were influenced by their genetic and cultural background.

Most research has indicated that the most successful athletes using more coping strategies than less successful athletes. Coping strategies are very effective to reduce anxiety and enhance performance. The result of this research showed that the football players in the Malay ethnic exhibit higher level of cognitive anxiety compared to other ethnics. Cognitive coping strategies can be used to reduce the level of cognitive anxiety on Malay athletes. Cognitive techniques are positive self-talk, physical activity, goal setting, thinking on practice, thought stopping, remember the worst-case scenario, focus on what you can control, imagery and simulation.

Furthermore, the result of this research also showed that football players among the Indian ethnic exhibited higher level of somatic anxiety compared to other ethnic. Somatic coping strategies can be used by athletes who showed higher level of somatic anxiety. Somatic coping techniques are breathing techniques, meditation, progressive relaxation, Autogenic training and biofeedback.

The information gained from this research should be used to help coaches, athletic trainers, sport psychologist and other professionals working with football players of different ethnic groups to identify common anxiety characteristics on soccer players. Coaches, sport psychologist and counsellors should use this research to provide cognitive coping strategies for Malay soccer athletes and somatic coping strategies for Indian soccer athletes, to reduce their anxiety and enhance their performance.

Future studies should focus on the types of coping strategies, which have the tendency to reduce anxiety on different ethnic groups. There is a possibility that different ethnic groups need different kind of coping strategies to reduce their anxiety. For example, meditation might be suitable for Malays, breathing techniques for Indians and thought stopping for Chinese athletes. However, only future research on types of coping strategies can determine which coping strategy will be suitable for different ethnics.

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