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The effect of gender differences on the level of competitive state anxiety and sport performance among Rowing Athletes

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ABSTRACT:

Anxiety is recognized as one of the main factors that reduces athletes' performance in sports. In many research reviews, researchers have found that high levels of anxiety have the tendency to deteriorate athletes' performance. However, to date there has been very limited research examining competitive anxiety on gender. The main aim of the study was to compare the level of competitive anxiety and sport performance differences among gender. Data was collected from 77 Rowing players during a sport event, using a 27 item Competitive State Anxiety Inventory-2 and 42-item of The Psychological Performance Inventory. The results showed that male athletes obtained the lowest score on competitive state anxiety, $t(32.1169)$, $p < .0.01$. Furthermore, female athletes exhibited the lowest level of sport performance, $t(32.949)$, $p < .0.01$. Based on the current results, it is recommended that sport psychologists, sport counselors and coaches in Malaysia use the findings to design appropriate training programs to help athletes acquire suitable coping strategies, to reduce their competitive state anxiety levels and enhance their performance.

Keywords: *Competitive State Anxiety; Sport Performance; Cognitive Anxiety; Somatic Anxiety*

Anxiety is a negative emotion, which affects perceptions in sport competitions, with a large majority of athletes considering anxiety to be debilitating and may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Researchers have reported that over 50 percent of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). When anxiety is not managed, athletes lose control and performance levels decrease (Martens, Vealey & Burton, 1990).

There has been a large amount of research concerning the multidimensional aspect of anxiety (Martens et al., 1990). Competitive State Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Martens et al., 1990; Jarvis, 2002).

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Cognitive anxiety is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention (Martens et al., 1990; Jarvis, 2002). Whereas, the somatic anxiety is the physiological element, which is related to autonomic arousals, negative symptoms such as feelings of nervousness, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in the stomach (Martens et al., 1990; Jones 2000; Jarvis, 2002).

Although, research had proven that there is a link between level of competitive anxiety and performance, the role of demographic factors in influencing anxiety levels is yet to be determined (Martens et al., 1990; Humara, 2001). Gender plays an important role in sports but most of the sport psychology research focuses on male than female athletes (Cox, 2011), and this makes it very difficult to determine the level of anxiety and sport performance on female athletes. More research is needed to determine the role of gender on anxiety (Oglesby & Hill, 1993), especially on handball players.

AIMS

The aim of this research was to identify the level of competitive state anxiety and sport performance among rowing athletes of different gender.

METHODS

In order to assess level of competitive state anxiety (cognitive and somatic), athletes responded to the 27-item Competitive State Anxiety Inventory–2 (CSAI-2) (Martens et al., 1990), using a 4-point Likert-type scale ranging from 1 (not at all) to 4 (very much so). CSAI-2 was used to measure athletes' tendency to respond competitive sport situation during competition. Besides that, 42-item of The Psychological Performance Inventory had been distributed. The Psychological Performance Inventory asses seven factor of performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 77 Rowing athletes, including the male (N=40) and female athletes (N=37).

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RESULT

Respondents' Profile

The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 77 Rowing athletes. The overall mean age for these respondents was 22.49 years old. The age of male respondents varied from 18 to 25 years, where the mean age was 22.01 years old. The age of female players ranged from the minimum of 18 to the maximum of 24 years old. The mean age for female respondents was 22.49 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 27 respondents had participated at national, whilst 17 respondents participate at state, 18 had participated at district and 15 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=46) and Diploma (n=31) programmes.

Table 1: Respondents' Profile (n=77)

Variables	Frequency	Percentage	Mean	SD
Athletes according to rank				
National	27	35.06		
State	17	22.08		
District	18	23.38		
University	15	19.48		
Programme				
Diploma	31	40.26		
Degree	46	59.74		
Age				
Male			22.01	1.29
Female			21.17	1.88
Overall			22.49	1.45

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Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .82 to .86 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=77)
Competitive State Anxiety	.8649
Sports Performance	.8277

Level of Competitive State Anxiety

The independent *t*-test on Table 3, showed the level of Competitive State Anxiety of rowing athletes, females athletes were higher ($\bar{x} = 27.3714$) than males ($\bar{x} = 14.0455$). Male athletes showed significantly less anxiety than females, $t(35.986)$, $p < 0.01$.

Table 3: Independent *t* test of gender on Competitive State Anxiety

	Gender	State Competitive Anxiety		
		Mean	<i>t</i> -test	p-Value
Level of State Competitive Anxiety	Female	27.3714	35.986**	0.000
	Male	14.0455		

** $p < 0.01$

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Level of Sport Performance

The independent *t*-test on Table 4, showed the level of Sport Performances of Rowing, males athletes were higher ($\bar{x} = 28.2210$) than females ($\bar{x} = 15.7989$). Female athletes showed significantly lower sport performance than males, $t(32.949)$, $p < 0.01$.

Table 4: Independent *t* test of gender on the Level of Sport Performance

	Gender	Level of Sport Performance		
		Mean	<i>t</i> -test	p-Value
Level of Sport Performance	Female	15.7989	32.949**	0.000
	Male	28.2210		

** $p < 0.01$

DISCUSSION

Level of Competitive State Anxiety

The result showed that the level of competitive state anxiety of female athletes was higher than males. Overall most of the research done on athletes and non athletes showed that female exhibited higher level of anxiety than males and this is supported by Montgomery and Morris (1994), Deutsch (1999), Barksy, Peekna and Borus (2001), Thatcher, Thatcher and Dorling (2004). They attributed the difference to biological factors and their gender-role expectations in society. For example, society will accept if females show fear, nervousness and worry but not males (Montgomery & Morris, 1994). In other words males have been trained to control emotions but females to exhibit emotions (Jones & Cale, 1989).

Level of Sport Performance

The result showed that the level of sport performances of female rowing athletes was lower than males. The present result is supported by Alessandra, Carlo, Claudia, Maria, Alessandra, Marina and Laura (2008), Trost, Pate, Sallis, Freedson, Taylor, Dowda and Sirard (2002), Scali, Sheila and Jennifer (2000) and, Davies, Greenwood and Jones (1998). Sport often perceived as man's

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world because it needs a strong and muscular body to achieve success. However, physically, women are not as strong as man. Therefore, the biological factors remain as the major cause that deteriorates females' level of sport performance compared males. Moreover, the level of competitive state anxiety also influences the level of performance. A few researches supported that high level of competitive state anxiety deteriorate the level of sport performance. They were Aufenanger (2005), Mellalieu, Hanton and O'Brian (2004) and, Jones and Hanton (2001).

CONCLUSIONS

The findings of the research determined that there are differences in the level of anxiety and sport performances showed by different gender of rowing athletes. The result showed that females' athletes exhibited higher level of competitive state anxiety and lower level of sport performance. This might indicated that high levels of competitive state anxiety were one of the main barriers that inhibited athletes from gaining higher achievements in sport. Anyway, more research is needed to confirm.

Most probably, coaches, sport psychologist and counselors can used this research to provide coping strategies for females athletes, to reduce their competitive state anxiety and enhance their performance.

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