

## Comparison Between Open and Closed Sport Skill of Malaysian Athletes Towards Cognitive and Motivational Functions in Self Talk

<sup>1</sup>K. Ong, <sup>1,2</sup>M.S., Omar-Fauzee, <sup>2</sup>M.H. Rosli and <sup>3</sup>C. Choosakul

<sup>1</sup>Department of Sport Studies, Faculty of Educational Studies, University Putra Malaysia

<sup>2</sup>Sports Academy, University Putra Malaysia

<sup>3</sup>Mahasarakham University, Thailand

---

**Abstract:** A study was done to determine the cognitive and motivational function between open and closed sport skill type. The study had taken 128 Malaysian athletes from the National Sport Institute of Malaysia comprising various kind of sport field. Self-Talk Questionnaire (S-TQ) [7] was used as an instrument to assess the cognitive and motivational function. Result indicates that although there is a strong correlation between cognitive and motivational function in self talk ( $r= 0.777^{**}$ ,  $p<0.05$ ), there is no significance difference found between both dimension in open and closed sport skill ( $p<0.05$ ). The result indicate that Malaysian athletes did applied ST in their game performance but the is no significant different when comparing the cognitive and motivational function in self talk for closed and open skill sport.

**Key words:**

---

### INTRODUCTION

Self talk has been used in sport psychology as a useful component to boost mental training programs with activation of cognitive thoughts as well as enhancing sport performances. Researched showed that with usage of words and phrases comprising of positive encouragement, athletes have better focus and also creates better mood for competition and training. They can change their bad habits or negative thoughts by replacing them with positive ones by the use of self talk, thus enabling improvement of performance in training and competition [1]. However, self talk maybe positive or negative depending on the nature of the athlete. Usually optimistic athletes would be more positive than negative and frequency of positive self-talk is higher than of the negative ones [2].

Self-talk can be divided into two functions and they are the cognitive function and the motivational function [2]. The cognitive function is the learning function, of performing sport skills and developing strategies of play, while the motivational function is where an athlete is able to self-encourage, create self-confidence and be mentally ready, regulating arousal and coping with it. Self- talk with both functions is able to result enhancement of an athlete's self-efficacy and boost performance [3, 4].

This study was done to determine the relationship between Malaysian athlete's cognitive and motivational functions in self talk in two different type of sport skill which are open and closed skill sport. A closed skill sport athlete basically knows when and how to execute the movements /skills, which are unlikely to change or influenced by external factors. Closed skill sports may include skills which are trained in a set pattern and have clear beginning and endings, such as athletics, swimming, bowling, gymnastics, shooting etc. Closed sports include skills which have the tendency to be self-paced and require focus on a relatively unchanged environment [5]. Open skilled sports are sports which include execution of skills which are determined by the constant change of the environment. Skills are adapted to the instability of the environment which are predominantly perceptual and paced externally [6]. These sports are such as football, tennis, badminton, basketball etc.

### MATERIAL AND METHODS

**Respondents:** The respondents were 128 athletes (male,  $n= 49$  and female,  $n= 79$ ) randomly selected from the National Sports Institute of Malaysia. The athletes were given the S-TQ questionnaire before and after their training sessions at their respective training venues.

The respondents were between ages of 13 years to 43 years old (mean age 20.89,  $\pm$ SD 4.53 years). There were 111 athletes whom currently performing at international athletes and 17 athletes at the national level. The athletes were gathered from 21 kind of sport field from 21. Among those 128 athletes, 62 came from closed skill sport while 66 athletes came from open skill sport.

**Instrument:** The athletes' perceptions were indomitable by the Self-Talk Questionnaire [7] to determine the relationship between the athletes' cognitive and motivational functions in self-talk. The instrument comprised total of 11 questions to assess the cognitive and motivational function in self talk. In the S-TQ, the items were assessed by using the *likert scale* type of assessment which represent by five options ((1) never, (2) rarely, (3) sometimes, (4) often and (5) always). The respondents were also required to answer a section of questions involving demographic items such as gender, age, race, marital status, type of sport, level of sport and period of involvement in respective sport involvement for further data analysis. The respondents were approached with permission from their coaches/ instructor in charge at respective training grounds just before and after their training session.

**Data Analysis:** Statistical Package for Social Science (SPSS 16.0) was used for data analysis. Descriptive analysis was computed for mean, frequencies and percentage values. Correlations were analyzed to determine the relationship of the two dimensions from the S-TQ instrument. An independent *T-test* was applied to determine the differences between close and open sports between the cognitive and motivational functions of ST.

## RESULTS

**Descriptive Statistics:** The study comprised of 128 athletes with 61.7% of them was female athletes and the age ranged from 13 to 43 years old. Table 1 shows the demographic information of the respondents (gender, race, age group and marital status).

**Correlation Between the Cognitive and Motivational Functions of ST:** Table 3 show the correlation between the two functions of ST, the cognitive functions and the motivational functions. This analysis was performed to determine whether there was a relationship between those two functions in Malaysian athletes. The results show that there was a strong relationship between the two functions, with  $r = 0.777^{**}$ ,  $p < 0.05$ .

Table 1: Athletes' demographic profile

Characteristics	Frequency	Percentage (%)
<b>Gender</b>		
Male	49	38.3
Female	79	61.7
<b>Age (years)</b>		
13-17	20	15.6
18-22	71	55.5
23-27	27	21.1
28-32	26	6.2
33 and above	2	1.6
<b>Race</b>		
Malay	71	55.5
Chinese	38	29.7
Indian	11	8.6
others	8	6.2
<b>Marital status</b>		
Single	120	93.8
Married	8	6.2

N = 128

The respondent's detail of involvement with their specific sport was shown in table 2. Most of the athletes came from hockey game (29.7%) followed by athletics (24.2%) and bowling (8.6%).

Table 2: Respondents details with relations to sport

Characteristics	Frequency	Percentage (%)
<b>Specialized sport</b>		
Hockey	38	29.7
Athletics	13	24.2
Bowling	11	8.6
Badminton	9	7.0
Swimming	7	5.5
Synchronized Swimming	6	4.7
Beach Volleyball	4	3.1
Taekwondo	2	1.6
Squash	2	1.6
Indoor Volleyball	2	1.6
Ping Pong	2	1.6
Netball	2	1.6
Basketball	2	1.6
Gymnastics	1	0.8
Bodybuilding	1	0.8
Tennis	1	0.8
Triathlon	1	0.8
Lawn bowl	1	0.8
Fencing	1	0.8
<b>Level of sport</b>		
International	111	86.7
National	17	13.3
<b>Length of Duration involved in sport</b>		
2-6.5 years	36	28.1
7-12 years	74	57.8
13-20 years	18	14.1
<b>Type of sport</b>		
Closed	62	48.4
Open	66	51.6

Table 3: Correlation between functions of ST

Variables		p value	Correlation (r)
Cognitive function	Motivational function	0.000	0.777**

\*\* Correlation is significant at the 0.01 level (2-tailed)

Table 4: Comparing means of the 2 functions with Open and Closed sport

Variable	Type of sport	Frequency	Std.		p value
			Mean	Deviation	
Cognitive function	Closed	62	4.16	0.67	0.527
Motivational function	Open	66	4.09	0.58	0.929
	Closed	62	4.18	0.60	
	Open	66	4.17	0.53	

**Differences in Closed and Open Sport in Correspondence to the 2 Functions of ST:** Table 4 show the results from independent *t-test* on the two functions of ST and the type of skill sport (closed and open). The results show that there is no significant difference between the two types of sport; closed and open, in terms of cognitive and motivational functions in ST.

## DISCUSSION

According to the results, it was acknowledge that there was a strong positive correlation between the two functions of ST; the cognitive and the motivational functions. This indicates that when athletes were able to improve their cognitive senses in performing a task or skill, their motivational levels increased as well. The reason maybe when with good cognition involved, the performance is better and when that happens, the athlete will be motivated as well. This will keep them pushing forward or try harder to achieve their goals. From this result also we might conclude that Malaysian athletes did exercise ST and it helps them with performance both cognitively and motivationally.

Although result showed the positive correlation between the two functions (cognitive and motivational function), the same thing did not appear to be the same when comparing the two functions in closed and open skill sports. Result indicates that there is no significant different (Table 4) occurred when comparing those to type of sport skill towards cognitive and motivational functions. This means that cognitive and motivational function did not significantly affect the type of sport skill (open and closed skill) that performed by Malaysian athletes'. This finding was opposite with the finding from a study done by [8]. They found out that using ST, it will give more effective result towards open skill sport rather than closed skill sport in a study done by them to

compare impact of ST on shooting and basketball sport. However, a study done [9] did give the same result as our study that indicated ST did not affect the type of skill sport. Furthermore, [9] reported that ST did give positive effect on gross tasks such as sit up test and knee extension test.

Perhaps the reason for all of this differences result might be due to difference in the subjects or respondents that used in the study. [8] for an example, had taken younger subjects (mean age of  $12.83 \pm SD=0.76$ ) and all of the subjects were in novice level. This might resulted the result might tend to favor the motivational functions rather than cognitive function because of the players lack of skill maturity in the game. Maturity level of cognitive skills and physiological differences also might contribute to the differences of findings. In other words, it too maybe reasoned that Malaysian athletes have good cognitive and motivational skills and perhaps performance difference is influenced by other psychological factors such as the use of mental imagery and ancillary factors.

Apart from that, in general, demographic factors also play a role in influencing the results of performance in open and closed skill sport. Asians in general have smaller physical body and thus able to excel better in closed sport rather than open sport where they are to counter and interact with opponents who may be bigger in physical appearance. Since we know that in general Malaysian athletes do well in both cognitive and motivational functions in ST, perhaps further studies may be included with more specificity on the content and cues of ST on Malaysian athletes, such as instructional functions of ST, usage of ST with Sport Imagery; or when do athletes actually use ST and a collection of more qualitative data.

## REFERENCE

1. Zinsser, N., L. Bunker and J.M. Williams, 1998. Cognitive techniques for building confidence and enhancing performance. In J.M. Williams (Ed.), Applied sport psychology: Personal growth to peak performance (pp: 270-295). Mountain View, CA: Mayfield.
2. Hardy, J., K. Gammage and C. Hall, 2001. A descriptive study of athlete self-talk. The Sport Psychologist, 15: 306-318.
3. Gould, D., K. Hodge, K. Peterson and J. Giannini, 1989. An exploratory examination of strategies used by elite coaches to enhance self-efficacy in athletes. J. Sport and Exercice Psychol., 11: 128-140.

4. Weinberg, R., R. Grove and A. Jackson, 1992. Strategies for building self-efficacy in tennis players: A comparative analysis of Australian and American coaches. *The Sport Psychologist*, 6: 3-13.
5. Lerner, B.S., A.C. Ostrow, M.T. Yura and E.F. Etzel, 1996. The effects of goal-setting and imagery training programs on the free-throw performance of female collegiate basketball players. *The Sport Psychologist*, 10: 382-397.
6. Knapp, B., 2002. The open and closed continuum. Retrieved October 10, 2002, from [www.brianmac.demon.co.uk/comtinuum.htm](http://www.brianmac.demon.co.uk/comtinuum.htm).
7. Zervas. Y., N.A. Stavrou and M. Psychountaki, 2007. Development and Validation of the Self-Talk Questionnaire (S-TQ) for Sports. *J. Appl. Sport Psychol.*, 19: 142-159.
8. Perkos, S., Y., Theodorakis and S. Chroni, 2002. Enhancing performance and skill acquisition in novice basketball players with instructional self-talk. *The Sport Psychologist*, 16: 368-383.
9. Theodorakis, Y., R. Weinberg, P. Natsis, E. Douma and P. Kazakas, 2000. The effects of motivational versus instructional self-talk on improving motor performance. *The SportPsychologist*, 14: 253-272.