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IMPACT OF SELF-CONSCIOUSNESS ON CHOKING UNDER PRESSURE IN BASKETBALL PLAYERS

Key words: choking, open skill, closed skill, self-consciousness.

ABSTRACT

The study examines the impact of self-consciousness on choking under pressure in young basketball players. Forty-five male and forty-five female basketball players from a sports club in the city of Ahvaz in Iran participated in this study. The sample was divided into three groups: two experimental groups (with a high and low level of self-consciousness, respectively) and the control group. The measurement method was semi-empirical based on the consciousness scale of Realo and Allik [10]. The study used an open skills test (man-to-man defense) and closed skills test (free throws). The obtained results revealed significant differences in the open and closed skills test performance between the three groups of subjects ($F = 17.817$ for both open and closed skills). There was a non-significant difference between male and female athletes in regard to choking under pressure in both open and closed skills test results.

INTRODUCTION

Choking under pressure is familiar to many athletes, although it is perceived differently in different sports. The yips, for example, is a form of choking in golf. It is a movement disorder affecting golf players as they take their final putting stroke. A common form of choking in basketball is known as a “brick”. It takes place when a player, while performing a critical free throw, badly misses the shot [3, 4]. According to Baumeister [2] choking takes place when both the athlete’s motivation increases and expectations of audience mount. Choking in such high-pressure conditions becomes the main reason for the athlete’s declining performance. According to Mesagno [7] and Baumeister [2], high pressure exerts a negative impact on the implementation of sports skills.

It is not clear whether choking can be self-assessed by different individuals; however, self-consciousness is regarded as an important factor influencing choking. It is expected that people with high self-consciousness suffer from choking because of their tendency to focus their attention on the internalization of high pressure [7]. Self-consciousness is concerned with the knowledge about oneself and focusing attention on oneself. It can be thus stated that attention and self-consciousness form two partially overlapping sets [1]. Self-consciousness as a focus of attention leads to transitory processing of variables to achieve a good result [9]. Individuals are aware of the state and behavior of themselves and others [12]. Greater sensitivity to others than oneself raises athlete’s self-awareness and improves his or her focus to perform skills. A high level of consciousness of

environmental factors also increases one's attention, whereas people with low self-consciousness tend show less sensitivity to others' ideas [12; 9]. Self-consciousness (conscious attention) and attention on the task do not appear to affect together the effectiveness of action in high-pressure conditions [6]. People with a high level of self-consciousness consider appear to benefit from implementation of their improved skills in high pressure conditions, while individuals with their attention focused on the task experience choking in such conditions [3].

Individuals with both high and low self-consciousness can be blocked depending on the pressure source. People with high self-consciousness may be blocked following failure and bad feedback (inner attention); people with low self-consciousness may be blocked feeling pressed by the audience watching them (outer attention) [13].

Mesagno et al [8] revealed that people with high self-consciousness, trait anxiety and positive coping strategies are prone to choking in high-pressure conditions. Reeves et al. [11] discussed whether players could practice self-consciousness to be able to adjust to high-pressure conditions. The results showed that choking occurred during performance of closed skills but not of open skills. Players with high self-consciousness (inner attention) improved their performance in high-pressure conditions. The subjects with low self-consciousness (outer attention) and the control group performed worse in high pressure conditions. The results of this study supported the theory of explicit control.

Wang et al. [13] studied self-consciousness and trait anxiety as predictors of choking and revealed that the best predictors of choking were private self-consciousness and somatic trait anxiety.

Wang's study [12] also reviewed the differences in choking under pressure between male and female basketball players; however, no significant correlation was found between self-consciousness and skill execution in men, but a negative significant correlation was noted for women, who achieved much higher self-consciousness scores.

Dandy et al. [5] examined choking and self-consciousness in male and female athletes. Although they found no self-consciousness differences for choking between men and women, the differences were statistically significant among men and non-significant among women. In general,

higher self-consciousness in men was found to be more helpful in preventing choking.

The results of the aforementioned studies show that during performance in controlled psychological conditions athletes can prevent deterioration of their skills. The present study focused on relations between self-consciousness and choking in basketball players.

METHODS

A statistical survey was first carried out on all club basketball players from the city of Ahvaz, Iran in 2009. The sample comprised 90 randomly selected basketball players (45 boys and 45 girls).

The measurement tool was a self-consciousness scale by Realo and Allik [10], which consisted of 24 five-point Likert items grouped into three subscales testing private self-consciousness (10 items), public awareness (6 items) and social anxiety (8 items) [13]. The possible answers to each item ranged from 0 (strongly disagree) to 4 (strongly agree). The reliability coefficients were 0.72 for self-consciousness, 0.66 for public awareness, and 0.82 for social anxiety, respectively.

Before the tests, the scale was completed by all the players. Based on the self-consciousness scores the subjects were divided into three groups: control group, high self-consciousness group and low self-consciousness group. Each group included 15 female and 15 male players. The tests were carried out in four sessions, each consisting of 20 exercises. The purpose of the study and performance technique were explained to the players.

The 1st session (pre-test) consisted of a 5-min warm up including a closed skills test of 45 free throws. Then the pre-test was carried out consisting of 20 free throws performed in low-pressure non-competitive conditions, i.e., with no presence of audience and judges. For each successful shot a player was awarded 1 point.

The 2nd session (post-test) was carried out in the same way as the 1st session but in high-pressure competitive conditions, i.e. in the presence of spectators and judges.

The 3rd and 4th sessions were held in a similar way to the 1st and 2nd sessions, but with an open skills man-to-man defense test. Man-to-man defense is a crucial skill for all basketball players. One player assumed the role of an attacker and

another of a defender. The defender then tried to aggressively push the attacker back to his or her own zone and intercept the ball. A multivariate analysis of variance at $\alpha = 0.05$ and Tukey's test were used to measure differences between the groups of subjects in different sessions.

RESULTS

Each of the three groups, i.e. high self-consciousness group, low self-consciousness group and control group, consisted of boys and girls of similar age and sports experience. Repeated measures analysis of variance was carried out for the closed and open skills test results. The analysis showed that the pressure-induced differences between pre-test and post-test results were statistically significant.

The research hypothesis examined whether different levels of self-consciousness in three groups of basketball players (high self-consciousness group, low self-consciousness group and control group) had an impact on choking under pressure during performing different open and closed skills. To verify the hypothesis a multivariate analysis of variance with 95% confidence and interval error rate of $P < 0.05$ was applied. Table 1 presents a summary of results of multivariate analysis of variance. The mean results are significant at $p = 0.001$. It thus can be concluded that there are significant differences between the groups due to choking under pressure. Table 2 presents results of MANOVA of components of choking in closed and open skills tests. The analysis of variance revealed significant differences between mean results in the three groups of subjects for the open skill variable ($F = 31.656, P < 0.001$) and closed skills variable ($F = 19.356, P < 0.001$).

Table 1. Results of multivariate analysis of variance

Type of effect	Name of test	Value	F	df hypothesis	df error	Level of significance	Eta square
group	Pillai's Trace	0.500	14.508	4.000	174.000	0.001	0.250
	Wilk's lambda	0.500	17.817	4.000	172.000	0.001	0.293
	Hotelling Trace	1.000	21.253	4.000	170.000	0.001	0.333
	Roy's Largest Root	1.000	43.496	2.000	87.000	0.001	0.500

Table 2. The one-way analysis of variance for test components of MANOVA for open and closed skills tests

Dependent variable	Sum of squares	F	Average squares	df	Level of significance	Eta square
Open skill	170.022	31.656	85.011	2	0.001	0.421
Closed skill	139.467	19.356	69.733	2	0.001	0.308

Table 3. Tukey's test results in three groups of subjects with different levels of self-consciousness in open and closed skills tests

Dependent variable	Group	High self-consciousness	Low self-consciousness	Control
Open skill	high self-consciousness		*	—
	low self-consciousness	*		*
	control	—	*	
Closed skill	high self-consciousness		*	*
	low self-consciousness	*		—
	control	*	—	

* significant difference

— non-significant difference

The differences due to choking were also revealed between the high-consciousness and low-consciousness groups and between the high-consciousness groups and control group in Tukey's test (Tab. 3) in the open skills and closed skills tests.

In addition, the results of multivariate analysis of variance revealed differences due to choking under pressure in the three groups of subjects between the two sexes in closed and open skills tests.

DISCUSSION

The requirements of high-level performance impose an increasing pressure on modern athletes. Despite the fact that athletes are expected to display the best shape, and achieve the highest ranking positions, their actual execution of skills is often at the sub-optimal level in high-pressure conditions [4].

The present study discussed the impact of self-consciousness on choking in young basketball players from the city of Ahvaz in Iran. The obtained results revealed differences in choking levels between groups of subjects with different levels of self-consciousness performing open and closed skills tests. Subjects with high awareness of others are more motivated than subjects with low awareness of others, who focus only on themselves. Such people are strong in positions that require awareness attention, whereas people with low self-consciousness in the presence of audience look to the outside and may suffer from choking [13].

The results of the statistical analysis show that people with high self-consciousness are less affected by choking than the two other groups (control and low self-consciousness groups) in high-pressure conditions in both open and closed skills, while people with low self-consciousness most often experienced blocking in high-pressure conditions in both open and closed skills tests.

These results remain in accordance with those of Reeves and et al. [11] but do not correspond with those of Mesagno et al. [8] and Wang et al. [13]. This inconsistency can be caused by different types of exercises used in those studies (bowling in Mesagno et al. and netball in Wang et al.), sample sizes, and types of questionnaire used to measure self-consciousness. In addition the results of the present study are inconsonant with those of Dandy et al. [5]. Both studies were

conducted on the same sample type, i.e. basketball players, but with different skills levels.

The present study also revealed non-significant differences between male and female basketball players with different levels of self-consciousness (high self-consciousness, low self-consciousness and control group) of choking in both open and closed skills. While many investigations have focused on both male and female players, little differences have been noted between male and female players. The present study results related to gender differences correspond with those of Dandy et al. [5] but are not consistent with results of Wang [12]. This can be attributed to different questionnaires used in both studies (both studies were carried out on basketball players).

The present study revealed differences in choking impact between subjects with different levels of self-consciousness. Those with high self-consciousness and control group were less affected by choking in both open and closed skills tests, which can be a useful indication to coaches to consider self-consciousness tests in training of team players to ensure a high level of their self-consciousness. The study results can also be used as a recommendation to coaches to improve the awareness of open and closed skills training in athletes with low self-consciousness, to play effectively in high-pressure conditions and experience less choking.

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