

## The Effect of Instruction and Motivational Self Talk on Performance and Retention of Discrete and Continuous Motor Tasks

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**Abstract:** The aim of this study was to determine the effect of instructional and motivational self-talk in performance and retention of discrete and continuous motor tasks. Participants were 120 males, who divided to six experiential groups. Dart throwing and dynamic balance was selected as discrete and continuous motor tasks, respectively. The scores were recorded after every trial as performance test. 48 hours later was done retention test. Results of MANOVA showed that there is significant difference between instructional, motivational and combinational groups. Therefore, instructional self-talk had a significant and higher effect on discrete motor task; and motivational self-talk had significant and higher effect on continuous motor task. Also, there is no significant difference between groups in retention test. Results of this study were discussed in short term effect of self-talk on performance.

**Key words:** Instructional and motivational self-talk, performance, retention, discrete and continuous motor tasks.

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### INTRODUCTION

A variety of intervention methods have been used for improving performance, satisfaction and individual development of athletes. Specially, cognitive strategies are designed to positively influence and change emotional and mental patterns include self-talk, goal setting, mental imagination, relaxation training and motivation adjustment. These can be useful and valuable for athletes. One of these intervention methods, self-talk, is a strategic method which is applied to people's speaking loudly or inner speech (Sellars, 1997). Studies indicated that athletes use self-talk broadly to increase and create motivation (Weinberg, 1992). Zinnser, Bunker, (2006) Williams and Hatzigeorgiadis (2009) noted that self-talk improves performance through enhancing skill, self-confidence and self-efficiency and modifying ineffective habits (Zinnser, 2006). Furthermore, Weinberg and Gould suggested that athletes use self-talk in a different ways so self-talk can be used in a variety of situations and for different aims (Weinberg, 2003).

Self-talk has many kinds include positive, negative, neural, motivate and in instructional. Several studies have compared the effect of different kinds of self-talk on different tasks, conditions and athletes. It seems that positive statements before performing a task increases mental and physical fitness (Zinnser, 2006). Also it is suggested that positive self-talk decreases anxiety, enhances effort, increases self-confidence, creates self-awareness, controls attention and excitement and helps rehabilitation after injury (Hardy, 1996). Most studies have supported this idea that self talk has a useful influence on function. It had been indicated that positive self-talk is an effective strategy in increasing resistive function (Hardy, 1996). Although many studies have found that positive self-talk can lead to improved performance of resistive tasks or tasks in exercises including basketball, tennis and ski (Hardy, 1996; Ziegler, 1987; -Rushall, 1988; Chroni, 2007; Christian, 2008) still there is contradiction about effectiveness of two kinds of positive self-talk: motivational and instructional self-talk. It seems that motivational self-talk increases performance through inspiring more effort and creating positive behavior and facilitating self-confidence, however instructional self-talk improves performance by inspiring favorable actions through focus and performance strategy (Hardy, 1996; Chroni, 2007).

Although several studies investigated influences of different kinds of self-talk applied before competitions,

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results have been contradictory because some studies have indicated that instructional self-talk is more effective in compared to motivational self-talk and others indicated different results. So still there is uncertainty about more effective self-talk. More studies is required that specially investigate application of self-talk for athletes. Although previous studies have found positive influences of instructional and motivational self-talk on athletes, still it requires more researches (Van Raalte, 1995).

So because of lack of studies indicating which kind of self-talk is more effective for athletes, this study is designed to explain and examine interactions and consequences of these elements in discrete motor tasks. Recognizing and understanding the effect of these variants can be useful for all kinds of athletes. So, the aim of this study is to determine the effect of instructional and motivational self-talk or combination of these two on performance and retention of discrete and continuous motor tasks.

***Method:***

Method of this study was semi empirical.

***Study Universe and Statistical Sample:***

Statistical universe of this study was all male physical education students of Azad University, Ali Abad Katul subdivision. 120 testees were chosen randomly and divided into 6 groups.

***Measurement Tools:***

1. Discrete motor task is dart throwing. Darts are thrown toward a standard board installed in seven feet from goal line in six feet height. Board is covered with newspaper with a hole indicating center of goal. After each testee finishes throwing, newspapers are removed and distance of each dart from center is measured. Darts which are out of board are considered 17/5 cm (Van Raalte, 1995).
2. Continuous motor task is dynamic balance. For doing so a balance meter is used in which time of keeping balance is measured. Time of keeping balance is the ability of testee in maintaining constancy on a board which has 5 degree gradient. A chronometer provides number of second that board has been in balance. Measuring balance with this method is a reliable measurement of balance (Araki, 2006).

***Method of Performing Test:***

Testees were divided into six groups. For dart throwing task, testees were told to perform 15 exercising thrown and 15 empirical thrown. Before starting, testees of instructional self-talk group were asked to say "look at center of goal" and testees of motivational self-talk group were asked to say "you can do it" and combined group were asked to say both statements.

For dynamic balance task, testees were told to stand on tilt board. Each testee practiced for 30 seconds and then rested 30 seconds. Then he was tested for 30 seconds. During resting, testees were told to take care of their self-talk before and during the test. In the end of 30-second test, time indicated by chronometer was recorded. Instructional group used self-talks such as "flex your knees" "keep your balance" and motivational group used "yes, come, come" and "I'm sure I can do it" and combined group used both statements. 48 hours later, performance test and for considering learning of testees, retention test was conducted (Araki, 2006).

***Statistical Tests:***

First variants of research are defined by defining statistic. Also for considering intergroup differences, variance analysis test (MONOVA) was conducted. For determining point of changes TOKI test was used.

***Results:***

***Performance Test:***

***Dart Throwing Accuracy:***

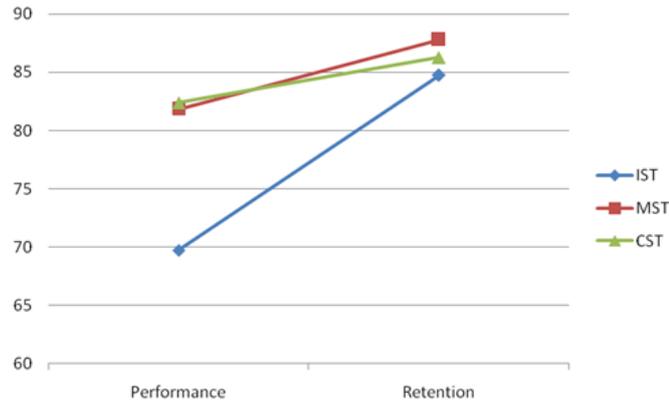
Results of MANOVA indicated that there is significant difference between averages of study groups in performance test. Testees of instructional self-talk group had more accuracy in throwing. Descriptive statistics indicated that mean of instructional self-talk group in this task was  $6/68 \pm 69/75$ . (Table 1, Fig1)

***Dynamic Tilt Board:***

Results of MANOVA showed that there is significant difference between mean of groups in performance test. Testees of motivational self-talk group were more accurate. Descriptive statistics indicated that mean of instructional self-talk in this task was  $1/46 \pm 7/73$ . (Table 1, Fig2)

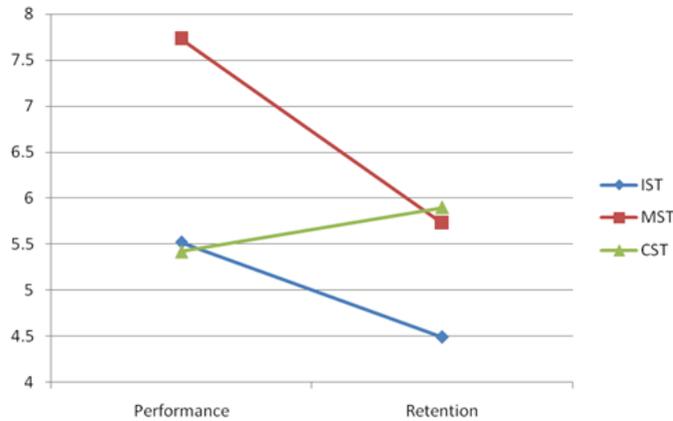
**Retention Test:**

Results of MANOVA indicated that there isn't significant difference between mean of research groups in retention test. Group mean is shown in table 1, Fig1 and Fig2.



**Fig. 1:** Groups mean scores in dart throwing.

IST = Instructional self-talk.  
 MST = Motivational self-talk.  
 CST = Combinational self-talk.



**Fig. 2:** Groups mean scores in balance task.

IST = Instructional self-talk  
 MST = Motivational self-talk  
 CST = Combinational self-talk.

**Table 1:** Mean and standard deviation in performance and retention test.

Tasks groups	Dart throwing		Dynamic tilt board	
	Performance	Retention	Performance	Retention
Instructional	68/6±75/69	48/24±75/84	58/0±52/5	10/1±49/4
motivational	30/29±85/81	19/20±79/87	46/1±73/7	91/0±73/5
combined	13/19±40/82	91/15±27/86	22/2±42/5	75/1±90/5

**Discussion and conclusion:**

The aim of this study was to determine the effect of instructional and motivational self-talk in performance and retention of discrete and continuous motor tasks. Results of this study is an emphasis on results of Hatzigeorgiadis *et al*, (2009) Hardy *et al*, (1996) Christian Edward *et al*, (2008) van raalte *et al*, Araki *et al*

(2006) and studies that noted self-talk is an effective factor for improving performance in athletes. As results of this study indicate, performance of testees is significantly affected by instructional and motivational self-talk in discrete and continuous skills. This indicates positive influence of self-talk on performance of athletes. But the point is that different kinds of self talk have different effects according to nature of skills and tasks. Miller and Donohue (2003) indicated significant positive effects of instructional and motivational self-talk but differences of influences of these self-talks on performance in different skills is the matter of this study.

Results indicate that instructional self-talk has more significant effect than motivational self-talk in discrete tasks such as dart throwing. This finding might be related to nature of this task. Dart throwing requires a high focus and attention. Using instructional self-talk might have helped to increase their focus on task which as a consequence caused better performance.

On the other hand motivational self-talk led to better performance in continuous motor skills. This finding is discussed with regard to nature of continuous task which is used in this study.

Dynamic balance skill is a skill that requires more motivation of testee. So motivational self-talk and statements such as "yes I can do it" help to increase motivation of testee.

The interesting finding of this study is lack of stability of influence of self-talk on performance of testee. As results indicate, there is no significant difference between groups in retention test.

Skills which were used in this study can't be extend to all discrete and continuous skills and certainly more research is required to investigate effect of instructional and motivational self-talk and other kinds of self-talk on other skills so that short-time and long-time effects of these kinds of self-talk becomes completely clear.

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