

## The Effect of Six Weeks Exercise of Tanavarz (Rope Dancing) National Plan on Sensational – Motional Abilities of Dynamic Balance: (Case Study; Students of Primary Schools of Piranshahr City)

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### ABSTRACT

The purpose of this study is investigating the effect of six weeks exercise (12 sessions) of Tanavarz (rope dancing) national plan on dynamic balance abilities students of Piranshahr's primary schools. Method of research is experimental – field that students of two different classes from two schools, one group as experimental (61 persons) and another as control group (64 persons) were selected randomly. for dynamic balance walking on balance wood and for agility measuring 9×4 running have been used have been used. At first, pretest variables of both groups were measured. Then, experimental group practiced 12 sessions of approval education ministry's exercises individually and gregariously that each section was 45 minutes. Findings: In this study analysis was performed by descriptive statistic such as mean, and standard deviation and method OF T test. Also analysis was conducted using SPSS 16 and Excel 2007. Comparison between results of pretest and protest of both groups, i.e. experimental and control, showed that attendance in Tanavarz plan caused that trained group improved their dynamic balance and balance abilities in comparison to control group. This difference of confidence limit  $p \geq 0.05$  and  $p \geq 0.01$  is meaningful. Tanavarz national plan leads to improvement of sensational – motional growth, therefore this plan could be used in schools for this purpose.

**Keywords:** Sale, Tanavarz National Plan, Sensational–Motional Abilities, Dynamic Balance, Students.

## Introduction

Nowadays human health is being endangered by automation and industrialization and considerably decreased of physical activities. Because the role of society base (children and juveniles) in this time cycle is critical and physical activity is necessary for health and safety of them to achieve future goals, mental and physical health is cornerstone of in their scope education. In Iran, education ministry is responsible for this critical task and in recent years by recruiting athletic specialists and sport sciences in primary schools has been performed a revolutionary role with long term over look, hence conducted some plans that Tanavarz is one of approved plans of health and physical education adjunct of education ministry (Method of Tanavarz, 2009). It should be mentioned that rope dancing committee under supervision of public sports federation is operating in sport and juvenile ministry in various age levels. Rope dancing is a perfect and pleasurable physical activity that could be played individually or collectively by short or long, one or two folded ropes. This activity was prevalent among different ages as a game and recreation many years ago, in addition athletes of others fields do it for increasing consistency of muscles and nerve and finally improving their physical preparation. Some special characteristics of rope dancing is as following the:

1. It has many skills and is applicable and interesting for all ages.
2. It has most educational profit.
3. It is best sport for duration of children' growth and juvenile.
4. It is pleasurable and interesting for children and juveniles.

5. It is a little risk sport with the least possible physical damage.

6. It could be done individually or collectively.

7. With rhythmic music is most influence (Public sport federation regulation, 2010).

The relation between motional activity and comprehension has been studied by many growth scientists. They suggested some theories about motional – sensational activity. As an example, currently a theory which is called “systems new theory” is the base of researches for studying balance and motion. According to this theory, ability to hold and control body in the space is a product of complicated interference that takes place between muscular, skeletal and neural systems. Significance of each system is various according to the goal of that motion and environment condition (Shumwayet et al., 1995). Theories such as neural organization by Delakuta (1996), sensational integration by Abrous (1972) and sensational – motional by Kefart (1971); all of them believe that both cognition and comprehension phenomena have a common goal and for improving mental performances of student, motional ability of student should be developed (Crebbin, 2001). Payne and Isax (2002) argue that any motion that is done by an individual, he/she involved in a sensational – motional process. Payne and Isaacs (2002) argue that when an individual perform any motion he/she involves itself in sensational – motional. Process of sensational – motional abilities is intuitive and extends with voluntary motions. Physical education Scholars believe that all voluntary motional activities may not affect cognitional learning procedure, but special abilities such as balance and flexibility have

common aspects that affect progress and improvement of sensational abilities (payne, 2002). Specialists defined balance as a state of organs equilibrium between opposite forces (magill, 1979). Therefore, investigation the effect of gaming on sensational – motional growth has a special significance as an aspect of general growth. About value of sensational – motional abilities, Magill (1979) argue that recognition of these abilities empower instructor or teacher to learn theoretical background of performing these skills and use them during physical activities for improving and modifying sensational – motional skills and extending sport abilities. These efforts leads to children have a proper corporeal growth. It should be mentioned that for successfully performing skills and motions, difference between individuals in sensational – motional abilities should be regarded. (magill, 1979). Therefore, teachers and instructors can determine their balance ability of their students by sensational – motional tests that this balance is cornerstone of all sport and physical activities, thereby specify their deficiencies and if needed obviate them. Because lack of motional exercises during growth period leads to unrecoverable influences, Tanavarz give this opportunity to students to practice sensational – motional abilities, govern their environment and rely on their abilities. Attending physical education individually or collectively in all sections in physical education sessions of schools prepare them to extend their abilities. In the context of physical and gaming activities significance on sensational – motional growth, few studies have been done. However, some of these studies are as following. Yousefi (2003) in an investigation found that school games have a positive effect on sensational – motional skills of third class of primary

students especially on balance, rapidity, consistency and precision (Yousefi, 2003). Kurdi (2000) found that current games of south part of Tehran for 9 – 10 years old children provide an appropriate context for acquiring sensational – motional abilities especially rapidity, dynamic balance and balance (Kurdi, 2000). Study conducted by Salman (1992) showed that physical activities have critical role in accelerating mental development of 3-9 years old children (Salman, 1992). In addition other selected physical activities had shown that these activities have a positive effect on sensational – motional abilities in the context of rapidity development of preschool and primary school children. (Srhoj, 2002; Lam, 2001). In addition, balance defined as a process of body retention around base level (Gambetta, Gray) (Saez and Villarreal, 2009), is most important athletic ability that involve in different sport activities. (Kraemer et al, 2001). It should be mentioned that vigor and muscle power are the most important prerequisites that are necessary for optimal doing routine tasks, job operations and especially athletic activities (William, 1998; Avery, 2007). Acquiring more power decreases risk of probable damages. Yesis argue that most athletes need power and speed, although Waton believe that the role of power and rapidity is depend on the kind of sport and gaming position (William1998). Evidences show that regular involvement in resistance exercising with plyometric plan increases power and vigor of athletes (Marginson 2005; Kotzamanidis, 2006). The purpose of this study was investigating the effect of six weeks exercise (12 sessions) of Tanavarz (rope dancing) national plan on sensational – motional abilities of dynamic balance class's male students of Piranshahr's primary schools. According to

mentioned description, following question will be arising from this study: Does Tanavarz national plan improve sensational – motional abilities of male students? Can physical education teachers improve sensational – motional abilities (dynamic balance) by Tanavarz national plan? For finding the answers of above-mentioned questions, the following hypotheses were investigated:

- 1- Tanavarz has a positive effect on dynamic balance of fourth class’s male students of primary schools.
- 2- There is a meaningful relationship between components of dynamic balance abilities.

**Material and methods**

Method of research is experimental – field research. Statistical society is all male student of primary schools of Piranshah of 2012-2013 educational years. At first stage two schools was clustered selected randomly that students of one school were experiment group (n = 61) and other school were control group (n =64). For investigating the effect of six weeks exercise of Tanavarz on dynamic balance abilities has been used. For measuring dynamic balance measuring strek test have been

used. At first, pretest variables of both groups were measured. Then, experimental group practiced 12 sessions of approval education ministry’s exercises individually and gregariously that each seccion was 45 minutes. Findings: In this study analysis was performed by descriptive statistic such as mean, and standard deviation and method of T test and SPSS software version16 with confidence limit of  $p \leq 0.01$  and  $p \leq 0.05$  for all of hypotheses has been used for analyzing acquired data. Also analysis was conducted using SPSS 16 and Excel 2007.

**Measuring device**

- 1 – china-made stopwatch joerex model
- 2 – Balance wood with the length of 4 meters for performing dynamic balance, gymnastic pillows for placing two ends of balance wood for safety.

**Results**

Table 1 shows individual characteristics of both experimental and control groups, results show that both groups approximately have same age and height.

**Table 1.** Age, weight and height indexes of experiment and control groups

Groups	N	Age (years)		Weight (kg)		Height (cm)	
		Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Test	61	10.56	0.50	30.03	3.77	138.46	7.68
Control	64	10.41	0.49	30.70	1.57	137.66	4.28

As could be observed from table 2, pretest average statistical indexes for dynamic balance in experiment and control groups are the same as each other approximately,

but posttest average of dynamic balance index of experimental group has been improved considerably with respect to control group.

**Table 2.** Statistical indexes of dynamic balance for both groups

Groups		N	Mean	Std. Deviation	Std. Error Mean
dynamic balance ( Pre-test )	Control	64	24.58	4.253	.532
	Test	61	11.92	1.960	.251
dynamic balance (post-test)	Control	64	11.58	1.966	.246
	Test	61	10.15	1.778	.228
	Control	64	11.00	1.834	.229

Table 3 shows results of T test, that is a comparison between pretest and post test of both groups. In this study, for testing first, second and third hypothesis T –test with non – equal averages was used. Difference between averages of these two groups at the beginning of test in  $p < 0.05$  level is meaningless. Table 3 shows the effect of Tanavarz plan on dynamic balance ability by comparing experiment

and control groups averages that is even meaningful with  $p > 0.05$  and  $p > 0.01$  of experiment group; in other words, experiment agent, that is, Tanavarz national plan could improve dynamic balance , dynamic and dynamic balance of experiment group. In this study, independent T test has been used for results of statistical data for investigating first; second and third hypotheses.

**Table 3.** Leven test for averages of experimental and control groups

Groups	T	t-test for Equality of Means			95% Confidence Interval of The Difference	
		Df	Sig	Mean Difference	Lower	Upper
dynamic balance ( Pre-test )	.967	123	.335	.340	-.356	1.035
dynamic balance (post-test)	-2.636	123	.009	-.852	-1.493	-.212

Pierson correlation coefficient has been used for fourth hypothesis and results of correlation coefficient of protest for dynamic balance have been shown in table 2. Obtained results show a meaningful relation of these variables in 0.05 and even 0.01 limits.

**Discussion and Conclusion**

The aim of present study is investigating the effect of six weeks exercise of Tanavarz national plan on sensational–motional abilities. Obtained results of this study

about the effect of rope dancing (Tanavarz) on sensational – motional abilities (dynamic balance and dynamic–dynamic balance) is in consistency with Erikson et al (2003), Von Burdon (2002), KiomerthZeglu et al (1998), Lam (2001), Noorbakhsh and Rezvianasl (2005) and Usefi (2003). Conclusions of Srouch (2002), Noorbakhsh and Rezvianasl (2005) and Kurdi (2000) are consistent with conclusion of this study about relation between dynamic balance and dynamic and dynamic balance in

experimental group. Smith (2000) believes that any motional skill could be considered a sensational – motional skill and sensational and motional actions are non-separable. In addition, enrichment of motional experiences usually increase individuals ability in more effective creating or understanding events that individuals encountering them, and in game playing as a pleasurable activity develop sensational – motional abilities of children (Schmidt, 2002). Dodman, et al (2013) research on the impact of agility and static balance Tnavrz students have a meaningful impact. According to researchers' opinions and conclusion of present study, one could say that rope dancing (Tanavarz) has positive effect on sensational – motional abilities and should be exercised regularly and properly and adequately in order to leads to improvement and development of dynamic balance and balance abilities of students.

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