

The effect of six weeks exercise of Tanavarz (rope dancing) national plan on sensational-motional abilities of agility: (Case study; west Azarbaijan province (Piranshahr), northwest of Iran)

Khalid Dodman¹, Fakhraden Hasanloei², Elhamvidafar¹, Himenmajidi¹, Salahe Mohammadpor¹ and Hoshyar Mehrfam³

¹Department of Physical Education and Sport Sciences, Malekan Azad University, Iran

²Department of Physical Education, Payamnoor University, Iran-Oshnavieyh

³Department of Physical Education and Sport Sciences, Urmieh University, Iran

ABSTRACT

The purpose of this study is investigating the effect of six weeks exercise (12 sessions) of Tanavarz (rope dancing) national plan on agility 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 measuring agility measuring 9×4 running 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 session was 45 minutes. 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 agility 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.

Key words: Tanavarz national plan, sensational-motional abilities, agility, 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 overlook, hence conducted some plans that Tanavarz is one of approved plans of health and physical education adjunct of education ministry [9]. 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 are 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 [18]. Theories such as neural organization by Delakuta (1996), sensational integration by Abrous (1972 [1]) 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. [2]. Pine 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 agility, balance and flexibility have common aspects that affect progress and improvement of sensational abilities[12]. Specialists defined balance as a state of organs equilibrium between opposite forces [8]. 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, Megel (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 [8]. 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 [21]) 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 [21]. Kurdi (2000 [6]) 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, agility and balance [6]. Study conducted by Salman (1992 [16]) showed that physical activities have critical role in accelerating mental development of 3-9 years old children [16]. 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 [7, 19]. In addition, balance defined as a process of body retention around base level (Gambetta, Gray)[15], 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 [1, 21], Acquiring more power decreases risk of probable damages. Yes is 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 [21]. Evidences show that regular involvement in resistance exercising with plyometric plan increases power and vigor of athletes [11]. 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 agility 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 (agility) by Tanavarz national plan?

For finding the answers of above – mentioned questions, the following hypotheses were investigated:

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

MATERIALS AND METHODS

In addition, SPSS software version 16 with confidence limit of $p \leq 0.01$ and $p \leq 0.05$ for all of hypotheses has been used for analyzing acquired data. Method of this study is experimental – field research. Statistical society is all male student of primary schools of Piranshahr ($n=10$) of 2012-2013 educational year. At first stage two schools were clustered selected 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 agility and balance abilities has been used.

Measuring device

1 – china-made stopwatch joerex model

2 – Two wooden bars

RESULTS AND DISCUSSION

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	Age (years)			Weight (kg)		Height (cm)	
	N	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 static balance in experiment and control groups are the same as each other approximately, but posttest average of static balance index of experimental group has been improved considerably with respect to control group.

Table 2: Statistical indexes of static balance for both groups

Groups		N	Mean	Std. Deviation	Std. Error Mean
Agility (Pre-test)	test	61	11.7693	.57022	.07301
	control	64	11.9313	.66637	.08330
Agility (post-test)	test	61	11.2608	.44137	.05651
	control	64	11.8659	.62601	.07825

Table 3 shows results of t –test that is a comparison between pretest and posttest 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 static balance ability by comparing experiment and control group's 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 agility, static 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-test for Equality of Means					
	t	d.f	Sig.	Mean Difference	95% Confidence Interval of the Difference	
Agility (Pre-test)	-1.456	123	.148	-.16191	-.38198	.05817
Agility (post-test)	-6.218	123	.000	-.60512	-.79774	-.41249

Pierson correlation coefficient has been used for fourth hypothesis and results of correlation coefficient of protest for three variables: agility, static balance and dynamic balance have been shown in table 4. Obtained results show a meaningful relation of these three variables in 0.05 and even 0.01 limits.

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 (agility and static – dynamic balance) is in consistency with Erikson et al (2003), Von Burdon (2002), Kiomerth Zeglu et al (1998 [5]), Lam (2001 [7]), Noorbakhsh and Rezvaniasl (2005) and Usefi (2003 [20]). Conclusions of Srouch (2002), Noorbakhsh and Rezvaniasl (2005) and Kurdi (2000 [6]) are consistent with

conclusion of this study about relation between agility and static 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 [17]. 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 agility and balance abilities of students.

Acknowledgement

Hereto, we express our Ahmad Ibrahimi and Amir Mamzamani and all of friends for their helps in this study.

REFERENCES

- [1] D. Avery, E.FaigenbaumJames, B. McFarland Fre, A. Nicholas, *Journal of sports science and medicine*, 6, **2007**,519-525.
- [2] W.Crebbin, perceptual motor development and academiclearninig <http://ballarat.edu.au/~wcrebbin/tb780/perceptualmotor.html>,**2001**.
- [3] S.Eduardosaez, D. Villarreal, B. Requena, U. Robert, *Journal of science and medicine in sport*,**2009**.
- [4] WJ.Kraemer, SA.Mazzetti, BC.Nindl, LA, JS.Volek, *Med Sci Sports Exerc*, 33, 2001, 1011-25.
- [5] C Kotzamanidis, *Journal of strength and conditioning research*, 20,**2006**, 441-445.
- [6]] MR.Kurdi,investigation and comparison sensational – motional abilities of 9 – 10 years old students in south and north of Tehran and comparing it with peer students, thesis of Master of Science in Tehran University,**2000**, Tehran, Iran.
- [7] H. Lam, M.Yung, w.andschiller, a pilot study on gross motor proficiency of hongkong preschoolers aged 5 to 6 years, jornal of perceptual Motor skills, 171,**2001**, 11-20.
- [8] U.Magill, R. UA, *Preceptual and motor skills*, **1979**, 27-320.
- [9] Method of Tanavarz national plan of I.R of Iran education ministry,**2009**.
- [10] M. Sheikh,*standing on one foot test*, **1995**,204 - 205.
- [11] V.Marginson, A.Rowlands, N. Gleeson, R.Eston, *Journal of applied physiology*, 99, **2005**,1174-1181
- [12] VG, LD. Isaacs,Human Motor development.5th. ed.boston,**2002**,McGraw.hill.
- [13] Public sport federation regulation – rope dancing committee,**2010**.
- [14] D.Holster, *Journal of strength and conditioning research*, **2001**, 86-91.
- [15] S.Saez, E. Villarreal, E.Kellis, WJ. Kraemer, M.Izquierdo, *J strength Cond Res*, 23, **2009**, 495-506.
- [16] Z. Salman, investigation the effect of physical activities and games on mental growth of kindergarten children, thesis of Master of Science in Tehran's teacher training University,**1992**, Iran.
- [17] R. A. Schmidt,T. D.Lee, *Motor Learning and Performanceing; From Prineiple to Practice*.2nd ed. Champain, IL Human Kinetic,**2002**.
- [18]C.A.Shumway, M.Woollacott, *Theory and practical application*, Baltimor: William Wilkins,1995,**2010**, 17-10.
- [19] L.J.Srhoj, *Journalcollantroploe*, 26(2),**2002**, 539-43.
- [20] S.Yousefi,primary school games effect on motional growth of third class girl students of area 5 (Tehran), thesis of physical science for Master of Science degree,**2003**, Iran.
- [21] P.William, MS.Ebben, *A review of combined weight training and plyometric training modes, complex training, Strength and conditioning*,**1998**.