INNOVARE JOURNAL OF SOCIAL SCIENCES

Vol 11, Issue 4, 2023

ISSN - 2347-5544

Research Article

EFFECT OF 6 WEEKS OF ROPE TRAINING ON THE DELICATE SKILLS OF ELEMENTARY SCHOOL GIRL STUDENTS

MINA KHANJANI*, MOJTABA BRARARZADE GRIVEDEHI, MOHAMMADBAGHER FORGHANI OZRUDI

Department of Physical Education, Azad Islamic University, Babol, Iran. Email: khanjani.mina@yahoo.com

Received: 23 March 2023, Revised and Accepted: 22 June 2023

ABSTRACT

The object of this research is to determine the effect of 6 weeks of rope training on the delicate skills of elementary school girl students. The study has been done in semi experimental method. Statistical society includes all girl students in fourth grade in which are learning Tanavarz National Project and are education in 121 schools in Babul city. Statistical sample has been selected randomly and in first Stage 3 schools and then in any school 1 class and in any class, about 15 students have been selected. They have been divided in three groups of control (n=15), speedy (n=15), and demonstrations (n=15) equally. Statistical datum has been analyzed through one-sided variance, non-parametric test of Kruskal–Wallis, and *post hoc* test of Tukey by SPSS 22 software in meaningful level of p≤0.05. Datum result showed that participants do have the mean height of 1.37±0.07 m and weight of 33.4±9.6 kg. Findings showed rope training project from statistical view in the two groups of showing and speedy does have meaningful influence on speed and agility of upper part of body and grow of fine motor skills than control group. However, its influence on the growth of response speed and motor visual control was not meaningful in three groups. In other hand, there is no meaningful difference among speed grow and agility of upper part of body and fine motor skills in speedy-demonstrations group (p>0.05), and only there is meaningful difference among the mean growth of speed and agility of upper part of body and fine motor skill in speedy-control group and demonstrations-control group (p<0.05). Finally, the result shows rope training project could be feasible program for the growth of girl's fine motor skill.

Keywords: Rope training, Delicate motor skills, Girl student, Elementary school.

 DOI: http://dx.doi.org/10.22159/ijss.2023v11i4.48022. Journal homepage: https://innovareacademics.in/journals/index.php/ijss

INTRODUCTION

Movement in children causes growth and evolution and is related to movement complications. As humans evolve, their movement abilities develop. Movement is pleasurable for ant children and motor skills are an assurance for them. This role is critical in different aspects of growth such as perception growth, sentimental growth, and motor growth (Chu, 1996; Seraj *et al*., 2004; Behmard *et al*., 2012).

In other hand, the role of physical education in schools lesson program helps students to achieve required competency and does have regular physical activity in their life. The important part of comprehensive physical education program is educating basic motor skills. Today, it has been approved that competency in basic motor skills is influential on different grounds. Without mastery in basic motor skills, there is little possibility for children to be successes in different motor skills in life (Kirchmer, 1992; Vazinitaher *et al.*, 2013).

Researchers and trainer believe that the basic target of education and training is to help in grow and dehiscence of children talents. Developing different dimension of bodily growth, mental, and psychological in children and youth is possible by physical activity. How to use body in different activity causes children learn to move and in movement, learning would be established (Moshrefjavadi, 2000).

To grow perception-motor abilities in children, first experiment is very important. Although perceptual-motor abilities are generated of environment, heredity by different ratio. However, one of important environmental factor in growing these capabilities is how passing first and sensitive period of life (Fallah, 1997).

Principle skills are the bases of expert skills in sport and effectively influence on the progress of executing these skills in childhood (Hagger *et al*., 2002; Vazinitaher *et al*. 2013). Game and physical activity does have very sensitive and filtering role in promoting perception level and growth. When a child do an activity or behavior, its pleasure, happiness, and freshness leads to repeating activity and practice in motor and bodily action (Mofidy, 1997).

Of perception-motor skills, we could name fine motor skills in which these movements have been done by great and small muscles and coordination of senses especially eye and hand (Kiamanesh, 1986). According to Nicolosi (2016) view, having fine motor skills means doing movements in which it doing requires using groups of small muscles. While we also see subtle movements in speaking and grasping and using objects.

Fine motor skills include pattern in which for doing correctly require balance in different systems such as sensation-bodily and nerve-muscle and skeletal-muscle and visual one, but in correct application of sensation-bodily system is possible without feedback from visual one (Case-Smith, 2004; Suba, 2006). These skills do have more vulnerable nature than gross motor skills due to different factors like allocating most part of marrow motor layer and using different groups of fine muscles (Suba, 2006, Kramer and Hinojosa, 2001).

In the childhood period, motor skills related to using hands and feet grow rapidly. However, fine motor skills such as fingers ability and coordinated movement of eyes and hands do not grow enough yet. In school period, skills pattern of fine motor substitute generally in children and children could participate in sports such as running, jumping, and shooting. Many of these skills are the result of combining hands movement to eye and feet (Soltani, 1999). Like showing skills in rope jumping in which eye coordination would combine to hand rope jumping move and feet substitution.

Fine Motor skills include jumping up the rope, getting ball, and shooting ball and are related to fine muscles. However, fine motor coordination is related to grow and evolution of hands' small muscles (Werner and Reiny, 2000).

Super (1949), Desrosiers *et al*. (1994), and Arnould and Pentam (2006), have distinguished toes fine skills from hand gross skills. Toes fine skills include coordination in hand corpus move and toes and hand gross skills including coordination in hand and arms movement. Skills require coordination of eye and hands are of juggling skills (Sanatkaran and Namazizade, 1998).

Melby (1936), Wilbur (1966), and Rozen (2006) study's showed jumping practice executing by rope is one valuable activity in which leads to muscles power progress, body resistance, heart health and blood vessels dependent to it, balance and body equilibrium, and agility and coordination among body's elements.

Body good control is of situation, balance and body equilibrium in under part and the end jumping to rope and bodily fitness, skills and innovation power, and creativity are the possible result of this activity and movement (Wibler, 1966).

Rapidity and hand and feet speed are of the two sports characteristics in which are influential on mastery in more sports competition. Rope jumping is one practice instrument in which does not require so many practicing meetings in a week and increases speed and rapidity (Lee, 2010).

Speedy practice program strengthens upper part of body muscles and lower part one. In general, in a 4–6 week period after regular speedy practice in athlete's strengthen corpus and forearm outstandingly and power increases sensibly. The ability of leg back muscle and four heads of leg would develop too. Shoulder muscle and back would develop and improves maintaining body balance (Lee, 2010). In speedy rope training, student or athlete begins to jumping-rope as game jugging in a 30 s by trainer order. Counting would begin by passing rope under right feet (Sadatrezaei, 2005).

There are so many skills in showing parts in which have been operated by one, two, and multi persons by short and tall rope and by two and multi ropes (Roohi *et al*., 2010). Educational program has been approved in national design of rope jumping and has been executed in country a school includes ten skills suggested by rope jumping association (Guidance of Jumping-rope project, 2010; Sadatrezaei, 2005).

Among these skills, four skills include: Heel and paw, cradle, and running on feet (tall knee) hands cross are on fine skills.

Rope training improves nerve and muscle coordination, increases agility, improves movement rhythm, increases action and interaction speed, and develops body ability (Roohi *et al*., 2010). Studies have been done in inner and out of country in general has emphasized on rope jumping on motor skills (Makiani, 2011; Chao and Shih, 2010; Nickelson, 2005; Ozer *et al*., 2011). Now, for the first time, we compare the influence of speedy practice and showing on fine skills.

Shroj (2002), Shroj *et al*. (2006), Gholammi *et al*. (2013), and Aldmier *et al*. (2013) believe that there is positive relation among balance and agility and by progress in one, the other progress, too. Balance and agility grow by children involvement to environment and experiencing it. Balance and agility in game form as a pleasurable activity for a child is a way of involving him to the one is not game.

Saraco (2000) does not found meaningful difference in the two groups of girls passing preschool period and not passing this stage in executing some games. Butcher and Eaton (2001) in a study on the amount of affectivity of fine motor skills and gross in preschool children in free movement ground have found better affectivity in gross and fine motor skills does depend on the amount of using and applying muscles during daily activities and early stimulating children lead to progress in motor skills.

The result of Emarati *et al*. (2010) study showed that selected elementary school games do have meaningful influence on speed, upper part of body's coordination, upper part of body agility, and perception-motor skills grow in testis than general activities. However, its influence is not meaningful on stable and seeking balance, two-sided coordination, power, response speed, visual-motor control, and social growth of testis.

According to motioned above and the result of research, it requires examining Tanavarz National Project of rope training on fine motor skills in girl students in fourth grade of elementary school and we should examine the influence of rope training practice on students' perception-motor skills? Does speedy rope jumping skills does influence on students' fine motor skills? Does demonstrations jumping-rope education have influence on girl students dine motor skills?

METHODOLOGY

According to the topic, this study is of semi-experimental type. Statistical society includes girl students in fourth grade in the years of 2013–2014 in which are educating in 121 elementary schools. Among these schools, we have selected randomly in first Stage 3 schools and in the next stage from any school, we have selected one class and in any class about 18 students randomly in which has been divided equally in three groups of control (n=15), speedy (n=15), demonstrations (n=15), then this research statistical society includes 45 students.

We have used of Bruininks-Oseretsky Test of motor proficiency in fine motor skills by four subtests of response speed, visual-motor control, speed, and agility in upper part of body in testis.

Testis in the two groups of demonstrations and speedy has done rope training for 6 weeks and in any week in two meetings and about 40 min. In any meeting for about 10 min, they have had warming movement including tension, oscillation, and jumping based on student age. This group has done 10 min to class activity and 20 min rope training program as the project of rope training method. Research hypothesis has been analyzed by referential statistic of one-sided variance and *post hoc* Tukey test and used of SPSS 22 software in analyzing datum.

Findings

Participants do have the mean height of 1.37±0.07 m and the mean eight of 33.4±9.6 kg.

The result of one-sided variance analysis in Table 1 shows that there is no meaningful difference among the mean speed in response in girl children in speedy, demonstrations, and control rope training groups ($p=0.349$ $F(42.2)=1.08$).

The result of Kruskal–Wallis test in Table 2 shows that there is no meaningful relation among the mean growth of visual-motor control in children on speedy, demonstrations, and control rope training groups ($p=0.070$, $x^2=5.30$). However, there is a meaningful difference among the mean growth of speed and agility of upper part of body in children on speedy rope training, demonstrations, and control groups ($x^2=17.22$, $p=0.001$). Therefore, we have used of pair comparison and adjustment test for determining the difference resource and testing sub hypothesis.

The result of pair comparison result in Table 3 showed that there is meaningful difference among the mean growth in speed and agility of upper part of body in children in speedy rope training group (3.93), and control (0.66) ($p=0.001$). There is meaningful difference among the mean growth in speed and agility of upper parts of body in children in demonstrations rope training group (3.93), and control (0.66) ($p=0.001$). In other words, demonstrations rope training and speedy improve meaningfully the speed and agility of upper part of body in children. However, there is no meaningful difference among the mean growth of speed and agility in upper part of body in speedy and demonstrations rope training groups ($p=1.000$).

The result of one-sided variance in Table 4 shows that there is meaningful difference among children fine motor skills growth in demonstrations rope training group, speedy, and control ($p=0.001$

F(42.2)=8.38). Therefore, we have used of *post hoc* Tukey test to determine the difference resource and test of sub hypothesis.

The result of *post hoc* Tukey test in Table 5 showed that there is meaningful difference among the mean growth of fine motor skills of children in speedy rope training group (5.86), and control (2.66) (p=0.003). Furthermore, there is meaningful difference among the mean growth of fine motor skills in children in demonstrations rope training group (5.93), and control (2.66) (p=0.002). In other words, speedy rope training and demonstrations improve the growth of fine motor skills in children meaningfully. However, there is no meaningful difference among the mean growth of children fine motor skills in demonstrations and speedy rope training groups (p=0.997).

DISCUSSION

The result of examining first hypothesis based on difference among the mean of children response speed in girls in speedy, demonstrations, and control rope training group showed there is no meaningful difference among the mean growth of response speed in speedy, demonstrations, and control group (p>0.05). The result demonstrations rope training practices are influential on response speed, but there is no meaningful difference among different groups.

Table 1: The result of one-sided variance analysis for growing response speed

Variable	Difference place	SS	df	MS	F	P
Response speed	Among group	2.80	2	1.40	1.08	0.349
	Inner group	54.4	42	1.29		
	Sum	57.2	44			

SS: Sum of square, MS: Mean square

Table 2: The result of Kruskal–Wallis test for sub test of motor-visual control growth and speed and agility of upper part of body

Variable	χ^2	df	Significant
Motor-visual control	5.30	2	0.070
Speed and agility of upper part of body	17.22	2	0.001

Table 3: The result of pair comparison in sub test of speed and agility growth in upper part of body

Groups	Statistic test	Significant	Adjusted significant
Speedy-control	−16.56	0.001	0.001
Demonstrations-control	−17.53	0.001	0.001
Speedy-control	−0.967	1.00	1.00

Table 4: The result of one-sided variance test for growing fine motor skills

Variable	Difference place	SS	df	MS	F	p
Fine motor skills	Among groups	104.57	2	52.28	8.38	0.001
	Inner groups	262.0	42	6.23		
	Sum	366.57	44			

SS: Sum of square, MS: Mean square

Table 5: The result of *post hoc* Tukey test for growing fine motor skills

Groups	Significant
Speedy rope training	
Control	0.003
Demonstrations rope training	0.997
Demonstrations rope training	
Control	0.002
Speedy rope training	0.997

Recent result is the same as Heidari *et al*. (1999), Eskandari (1997), Paik *et al*. (2006). The cause of similarity is existing codified program like rhythmic move, gymnastic, and selected school games, and the influence of rejecting these periods on the fine motor in children. However, it is not the same as Emarati *et al*. (2011), it is related to the practice content and expertise of practice. Due to growing this aspect of perception-motor growth in children, we should practice them especially and feasible motor program by emphasis on programming. As we mentioned before, different practice program does have different effects on sub structure motor abilities.

In recent study, student has received about 6 weeks and in any weeks two meetings and about 40min, the program of rope training. Because, student participating in rope training program does have outstanding progress in perception-motor skills, we could indicate that it is against boast theory in which growth procedure would be controlled through internal factors (genetic) and no external (environmental) one. Moreover, environmental factors influence on growth amount temporarily and at last heredity factors control growth (Heywood, 1993).

The result of second hypothesis showed that there is no meaningful difference among the mean growth of motor-visual control of girl's students in speedy, showing, and control group. (p>0.05) recent study result is the same as Emarati *et al*. (2011) after examining the mean of the two groups; we observe progress in the two. However, it is not meaningful from static view. It is not the same as Eskandari (2006), Wassenberg *et al*. (2004) perhaps that the type of selected motor program has influenced on visual-motor control factor and coordination of eye and hand ion testis. It is related to different influence of different motor programs on perception-motor skills elements.

The result of third hypothesis shows that there is meaningful difference among the mean of speed and agility growth of upper parts of body in girl students in speedy, demonstrations, and control groups (p≤0.05). Recent study result is the same as researchers like Emarati *et al*. (2011), Mollanorozi *et al*. (2011), Heidari *et al*. (2009), Eskandari (2007), khalji and Emad (2002), Paik *et al*. (2006), Goodway and Branta (2003), Makenzi *et al*. (1998).

Its cause is the influence of sub structural factors forming rope training program, because we see demonstrations rope training factor and speedy by different speed and different aspects in the games and the ability to change rapidly in all parts of body. Rope training program improves student's coordination and it requires preparing physical education facilities by experts to develop student coordination by doing practices.

The result of examining fourth hypothesis showed that there is meaningful difference among the mean growth of fine motor skills of girl's student in speedy, showing, and control groups (p≤0.05). In other words, demonstrations rope training and speedy improve meaningfully fine motor skills in children. In other words, demonstrations and speedy rope training leads to meaningful improvement in fine motor skills in children. Recent study result is the same as researchers result like Ghasemi *et al*. (2012), Mollanorozi *et al*. (2011), Emarati *et al*. (2011), Alimahammadi (2009), Heidari *et al*. (2009), Vesalinaseh (2009), Eskandari (2007), Vaezmousavi and Shojaei (2005), Sheikh *et al*. (2003), Khalij *et al*. (2002), Paik *et al*. (2006), Good way and Branta (2003) McKenzie *et al*. (1998). Furthermore, there is no meaningful difference among influence of speedy and demonstrations rope training on the growth of gross motor skills in children.

According to researcher view and research result, we indicate that rope training program by its variability could influence on under structural factors of different dimension of motor-perception abilities especially fine motor skills and if be practiced correctly would have outstanding

role in improve and development of response speed, upper part of body speed and agility, and in general on fine motor of students.

CONFLICTS OF INTEREST

No reports on the conflicts of interest.

FUNDING

No reports on the sponsorship for the authors, research, or publication.

REFERENCES

Aldemir, G. Y., Ramazanoğlu, N., Çamlıgüney, A. F., & Kaya, F. (2023). The effects of dance education on motor performance of children. *African Journal of Music Education*, *1*(2), 20-22.

Alipour, M. (1999). *Children growth and evolution* (*learning basic requirement supply*)*1st publication children fund* (pp. 3-20). Tehran: United Nation Organizations.

Arnould, C., Bleyenheuft, Y., & Thonnard, J. L. (2014). Hand functioning in children with cerebral palsy. *Frontiers in Neurology*, *5*, 48.

Behmard, F., Estaky, M., Ashayeri, H., & Asadpour, H. (2012). The influence of fine and gross motor education on decreasing the signs of short reading. *Learning Inability Magazine*, *2*(2), 25-39.

Butcher, J. E., & Eaton, W. O. (2001). Gross and fine motor proficiency in preschoolers: Relationships with free play behaviour and activity level. *Journal of Human Movement Studies*, *16*, 27-36.

Case-Smith, J. (2004). *Occupational Therapy for Children*. New York: Williams and Wilkins.

Chao, C., & Shih, Y. L. (2010). *The impact of rope jumping exercise on physical fitness of visually impaired students*. Wufeng: Department of Physical Education, Asia University.

Chu, S. (1996). Evaluating the sensory integrative function of mainstream school children with specific developmental. *British Journal of Occupational Therapy*, *59*(3), 465-474.

Desrosiers, J., Bravo, G., Hebert, R., Dutil, E., & Mercier, L. (1994). Validation of the box and block test as a measure of dexterity of elderly people: Reliability, validity, and norms study. *Archives of Physical Medicine and Rehabilitation*, *75*, 751-755.

Emarati, F. S., Namazizade, M., Mokhtari, P., & Mohammdian, F. (2011). Selected elementary school games influence on perception-motor growth and social growth of 8-to-9 years-old girls. *Research in Ability Science*, *7*(5), 661-673.

Eskandari R. (2007). Comparing gymnastic and selected games influence and grow by motor mastery in 9 years old boys. M.D Thesis. Iran: Shahid Beheshty University.

Fallah, H. (1997). Examining preschool influence on student's perception-motor skills in the first grade in Isfahan. MD Thesis. Iran: Tarbiat Modarres College.

Gholammi, F., Nourbakhsh, P., & Sepasi, H. (2013). Effect of selected exercises on dynamic skill promotion in fifth grade school girls. *European Journal of Experimental Biology*, *3*(3), 507-511.

Goodway, J. D., & Branta, C. F. (2003). Influence of a motor skill intervention on fundamental motor skill development of disadvantaged preschool children. *Research Quarterly Exercise Sport*, *74*(1), 36-46.

Hagger, M. S., Chatzisarantis, N., & Biddle, S. (2002). A meta-analytic review of the theories of reasoned action and planned behavior in physical activity: Predictive validity and the contribution of additional variables. *Journal of Sport and Exercise Psychology*, *24*, 3-32.

Haywood, K. M. (1993). *Life Span Motor Development* (2nd ed). Missouri: University of Missouri, Human Kinitics Publishers.

Heidary, L., Ghasemy, G. R., & Salehy, H. (1999). The influence of 8 weeks program of rhythmic selected moves on perception-motor skills of low metal able children. In 7th international conference in physical education and sport science.

Kahrizsangi, G., Salehi, H., & Heydari, L. (2012). The effect of a rhythmic motor program on perceptual-motor abilities of educable mentally retarded children. *Growth and Motor-sport Learning Magazin*e, *4*, 75-92.

Khalji, H., & Emad, M. (2002). The effect of the selected activity program on the perceptual-motor performance of four-to six-year-old children. *Motor Science and Sport Magazine*, *1*(1), 30-42.

Kiamanesh, A. R. (1986). *Training Targets Classification* (*Psychological-motor Areas*) Vol. *1*. Tehran: Educational Study and Programming Organization.

Kirchmer, G. (1992). *Physical Education for Elementary School Children* (8th ed). Dubuque, IA: Wm C. Brown.

Kramer, P., & Hinojosa, J. (2001). *Farmers of Reference for Pediatric Occupational Therapy*. London: Williams and Wilkins.

Lee, B. (2010). *Jump rope training: The complete system for fitness and performance*. (Paperback) (2nd ed) (pp. 112-124). USA: Human Kinetics.

Makiani, M. (2011). The influence of rope jumping program on perception-motor abilities in girl students in third grade of elementary school. MD Thesis. Physical Education and Sport Science College, Ahvaz: Shahid Chamran University.

McKenzie, T. L, Alcataz, J. E., Sallis, J. F., & Faucette, N.F. (1998). Effects of a physical education on children's manipulative skills. *Journal of Teaching in Physical Education*, *17*, 327-341.

Mellby, R. E. (1936). Rope jumping. *Journal of Health and Physical Education*, *7*, 93-95.

Ministry of Education and Training. (2011). *Elementary school rope jumping guides. physical education and health secretary of education and training ministry*. Vietnam: Ministry of Education and Training.

Mofidy, F. (1997). Requirement of body-motor preparedness in preschool period in the program of changing country education system. In: *Articles coolection of the second conference of sport science by emphasis on elementary school period*. Education and Traning Mininstrys' Physical Education General Office Publication.

Mollanorozi, K., Khalji, H., Sheikh, M., & Akbari, H. (2011). Selective motor program influence on the growth of hand giving skills in 4 to 6years old boys. *Growth and Sport Motor Learning Seasonal*, *7*, 5-21.

Moshrefjavadi, B. (2000). The importance of physical education and motor activities for children. *Zivar Varzesh Magazine*, *2*(7), 28-32.

Ozer, D., Duzgun, I., Baltaci, G., Karacan, S., & Colakoglu, F. (2011). The effects of rope or weighted rope jump training on strength, coordination and proprioception in adolescent female volleyball players. *The Journal of Sports Medicine and Physical Fitness*, *51*(2), 211-219.

Piek, J. P., Baynam, G. B., & Bareet, N. C. (2006). The relationship between fine and gross motor ability, self-perceptions and self-worth in children and adolescents. *Human Movement Science*, *25*, 65-75.

Roohi, M., Ghaffori, A., Damroodi, H., & Nasiridehbone, M. (2010). *Jumping-rope Education* (pp. 23-38). Tehran: Ahang Publication.

Roozen, M. (2006). A chart is presented that lists exercise instructions for jumping rope. *Men's Health*, *21*(3), 70.

Sadatrezaei, A. (2005). *Rope Jumping* (pp. 55-72). Tehran: Education and Training Mininstry s' Publication Office.

Sanatkaran, A., & Namazizade, M. (2008). *Juggling: Sport of Eye and Hand Coordination* (p. 7). Tehran: Ketab Bamdad Publication.

Saraco, M. A. (2000). Comparison between integrated physical education and motor skills children, teaching elementary physical education. *Journal Research Quarterly*, *74*(4), 45-54.

Seraj, G. (2003). *2nd Grade in Elementary School Teacher Book*. Teharn: Lesson Book's Publication General Office of Distribution and Publication.

Sheikh, M., Bagherzade, F., & Yousefi, S. (2003). Selective elementary school games influence on the motor growth of third grade students in 5 district of Tehran. *Olympic Magazine*, *11*(1,2), 77-88.

Soltani, S. (2010). Comparison of movement skill growth in students with attention deficit hyperactivity disorder with normal students. *Journal of Ilam University of Medical Sciences*, *17*(4), 45-52.

Srhoj, L. J. (2002). Effect of motor abilities on performing the hvar folk dance civilian in 11 year-old girls. *Collegium Antropologicum*, *26*(2), 539-543.

Srhoj, L., Katic, R., & Kaliterna, A. (2006). Motor abilities in dance structure performance in female students. *Collegium Antropologicum*, *30*(2), 335-341.

Suba, R. (2006). Stages of motor development in infants/young children: An informative guide for parents. In childs play conference.

Super, D. (1949). *Appraisisg vocatiorznl fitness*. New York: Harper.

Vaezmousavi, S. M., & Shojaei, M. (2005). Description and comparing the amount of motor mastery in girl and boy students in high school of Tehran. *Olympic Seasonal*, *1*, 79-95.

Vasalinaseh, M. (1999). Description and comparing boy and girl student motor skills 10-11 years old in Oromie city. *Move Science Sport Seasonal*, *13*, 57.

Vazinitaher, A., Hayatei, A., & Pakzamir, F. (2013). The relation of body activity level to the grow of basic motor skills in elementary school children. *Research Scientific Magazine of Behavior Movement*, *5*, 63-78.

Wassenberg, R., Feron, F. J., Kessels, A. G., Hendriksen, J. G., Kalff, A. C., Kroes, M., Hurks, P. P. M., Beeren, M., Jolles, J., & Vles, J. S. H. (2005). Relation between cognitive and motor performance in 5-to-6 year old children: Results from a large-scale cross-sectional study. *Child Development*, *76*(5), 1092-1103.

Werner, M., & Rainy D. (2000). In A. Sazmand, & M. Tabatabai, (Ed.), *Perceptual-motor development equipment ideas and activities* (p. 161). Tehran: Danje Publications.

Wilbur, H. (1966). Plus values for rope jumping. *Journal of Health, Physical Education and Recreation*, *37*, 32-36.