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COMPARING THE GROWTH OF GROSS MOTOR SKILLS IN CHILDREN (CASE STUDY: MALE AND FEMALE STUDENTS OF ELEMENTARY SCHOOL, DISTRICT 6, TEHRAN)

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Abstract: *The present study is a comparative causative research which evaluates the gross motor skills of girls and boys in primary schools of the district 6 in Tehran. For this purpose, 2-TGMD test was used to measure the large motor skills (moving and controlling the objects) in both male and female students. The study sample consisted of male and female students in all elementary schools in the academic year 2015 in the district 6 of Tehran from among which 3 girls and 3 boys' primary school were selected based on availability and were 250 students who enrolled in primary school were selected on a voluntary basis using a questionnaire. The Data obtained from questionnaires were analyzed using spss software and independent t-tested. The results showed that there is a significant difference between boys and girls considering all aspects of relocation, including running, galloping, spring, jumping over and slipping. The result of the second test showed that there is a significant difference among all aspects of control including hitting a fixed object with a bat, pulling in here; get up, kicking the ball over the shoulder and rolling down the ball in both boys and girls.*

Key words: *gross motor skills, relocation, controlling the objects, gender*

STATEMENT OF THE PROBLEM

Growth is a continuous and complex process. The movement capabilities of the child during the life are changing quickly and at the same time with the motional changes, there are mental, cognitive and social changes. Therefore, considering the motor growth of child is in fact a multi-dimensional and holistic growth (Galaho and Azmoon, 2004).

Children at the age of 3 to 4 years old , start learning the motor skills. Motor development is a process that begins before birth and continues throughout adulthood. Children encounter with the rapid changes in motor skills during their lifetime (Caroline, 2001). There are many evidences showing almost identical

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predictable sequence of growth and development for all children; but these changes are not the same from one child to another child (Payeneh, 2012).

General principles of growth include the genetics and environment concepts such as stability, growth rate, growth pattern, growth needs and crises, sensitive period of development and learning in all aspects of development (Ramezani, 1997).

Galaho and Azmoon (2011) had an interactional and mutual view of the relationship between personal factors such as heredity and environmental factors such as experience and learning and task-related factors, such as physical and mechanical factors. Motor development in each of them can be considered as a process. On the other hand, motor development can be generated as a result of movements in different periods of life and described comparing to the normal group. Children learn basic skills start with a combination of skills transfer and management skills. Transitional movement skills such as running, jumping, skip, gallop and glide and control skills such as throwing objects, including manipulating objects, catch, dribble out, hitting and getting (Galahu and Azmoon , 2011) these skills are the base for the future motor skills (Kavlock and Others, 2005).

On the other hand it is possible that cultural norms influence difference between the sexes through habits of physical activity, the. Part of the gender differences in power may be related to muscle fiber composition (Galahu and Azmoon, 2011) Sprint increases on a regular basis and to the same value in girls and boys with a slight increase in boys during the mid and late childhood. The speed of sprint in boys in adolescence increases at age 12 (Habenstickr and Sifild, 2003). In girls, the run up increases to the age of 15 and then decreases (Simmons *et al.*, 1990).

Both sexes have constant progress from 5 to 14 years old in the long jump and execution of men only differs a little from women. After this age, men at the age of 17 years old continue their progress linearly, but women reached a plateau and may even reduce its performance score (Galahu and Azmoon, 2011). This study aims to compare the gross motor skills in two dimensions of handling and controlling shedders in two groups of male and female students in junior high school.

Theory

The main element of movement or the fundamental motor skills (Reeves et al., 1999) are among the large movements; the actions that are related to the large muscles (Ulrich, 2000).

Gross motor skills, are the skills in which large muscles play a major role in its production;

Such as leg muscles which produce a series of movements such as walking, running and hopping. More subtle movements are controlled by a group of small

muscles like many of the movements that are done by hand because the small muscles of the fingers and forearm can be produce movement in the fingers. Therefore, actions such as drawing, sewing, typing or playing music are an elegant movement (Pike, 2006).

Fundamental motor skills are classified in other way, too. Accordingly, the basic movements are divided into three main groups as follows:

1. resistance skills which includes a static balance, dynamic balance and axial movements;
2. handling skills such as: walk, run, jump, hop,
3. Manipulation skills such as throwing the top of the shoulder and get the ball

Children after development and refinement of the basic movement patterns can execute and learn more complex movements or activities than the daily exercise; It is believed that lack of access to expertise in fundamental motor skills prevents the growth of an efficient and effective movement patterns in the future (Galahu and Azmoon, 2011).

RESEARCH BACKGROUND

Williams and Hedges (2005) in a study on the number of children from 4 to 6 years old, concluded that age compared to gender has a more effect on the implementation and gross motor skills.

Khalaji and colleagues (2014), in an article entitled "comparing the motor development in girls and boys with parents from in-laws relative" concluded that the growth motor and manipulation skills of the girls with parents were higher than those with in-laws parents. It can be states that, parents married in relative may have an impact on motor development of children. For more specific to the effect of marriage on motor development, it is suggested that the influence of parents married in relative should also be investigated in athletics.

Naseh and colleagues (1998) in an article compared girls and boys of 10 and 11 years old in terms of motor skill in Urmia city. For this purpose, 360 fourth and fifth grade students of primary school in Urmia city public schools were randomly selected and tested. The results showed that boys in gross motor skills and girls in fine motor skills were significantly better than the other group.

RESEARCH METHOD

The study sample consisted of male and female students in all elementary schools in the academic year 2015 in the district 6 of Tehran from among which 3 girls and 3 boys' primary school were selected based on availability and were 250 students who enrolled in primary school were selected on a voluntary basis using a

questionnaire. The Data obtained from questionnaires were analyzed using spss software and independent t-tested.

RESEARCH INSTRUMENT

In this study gross motor development scale (2-TGMD) was used in order to evaluate the gross motor skills. Gross motor development scale (2-TGMD) is the normalize test which measures the gross skills in the age range of 3 to 10 years and was published in 2000. The test consists of two subtests as displacement and object control. Subtest of displacement consists of six basic skills of running, galloping, spring, spring, jump over and slipping. The object control subtest includes hitting the fixed ball, dribbling in place, get up, kicking the ball over the shoulders and rolling down.

The validity of this test is 96% and the reliability of the displacement subtest and the object control subtest were 85% and 78%, respectively. Zarezadeh has been confirmed the validity and reliability of the test in Iran in 2009. Reliability of the TGMD-2 in the displacement subtest, was 65% and 88% minimum and maximum amount respectively and has been reported about 69% and 78% respectively in object control subtest. In this study, the reliability of the displacement and object control subtests were 75% and 82%, respectively.

ANALYSIS OF THE FINDINGS

The independent t-test was used in order to determine significant differences between boys and girls in gross motor development. The results were as follows.

Table 1
T-test to measure the displacements subtest in boy and girl students

Variables	*T*	*df*	*p-value*
Run	74/75	248	P<0/001
Trot	05/38	248	P<0/001
Skip	15/52	248	P<0/004
Bound	75/34	248	P<0/005
Long jump	44/50	248	P<0/004
Glide	08/69	248	P<0/001

As can be seen in the table above, according to the results of the test since the test was significantly less than 1%, respectively, therefore there was a significant different among of all aspects of the development of gross motor movement, including running (P <0/001), trot (1 P <0/00), spring (4 P <0/00), spring (50 P <0/0), Jump length (4P <0/00) and sliding (P <0/001) among boys and girls with 99% probability.

Table 2
t-test to measure the controlling object subtest in boy and girl students

variables	*t*	*df*	*p-value*
Hitting the ball with tab	58/32	248	P<0/005
Dribbling on spot	08/70	248	P<0/001
Getting the ball	02/59	248	P<0/004
Hitting with foot	68/73	248	P<0/001
Over the shoulder	62/56	248	P<0/004
Rolling down the ball	11/68	248	P<0/001

As can be seen in the table above, according to the results of the test since the test was significantly less than 1%, respectively, therefore there was a significant different among of all aspects of the development of gross motor movement, including Dribbling on spot (P <0/001), Getting the ball (P <0/004), Hitting with foot (P <0/001), Over the shoulder (P <0/004), Jump length (4P <0/00) and Rolling down the ball (P <0/001) among boys and girls with 99% probability.

CONCLUSION

The purpose of this study was to compare the development of gross motor skills among the girls and boys in primary schools of the district 6 in Tehran. For this purpose2- TGMD test was used to measure gross motor skills and controlling the movement of an object in two dimensions in both male and female students.

The results showed that there is a significant relationship between boys and girls among all aspects of the development of gross motor movements such as running, galloping, spring, spring, jump over and slipping with 99% probability.

Further, the results of the second test showed that there is a significant relationship between boys and girls among all aspects of the development of gross motor control object includes fixed with clubs hit the ball, dribbling in place, get up, kicking the ball over the shoulder and rolling down with 99% probability. The main discussion in physical education is the public health issue in the community. To have a healthy society, due to the growth in children and adolescents is essential. In this study, the researchers decided to examine the development of motor skills and control the movement of an object in two dimensions in both male and female gender.

The results showed that there was a significant difference in this respect between two genders. In this way, the boys has had a better performance in gross motor skills, whether in motion and in the control object as a result, gross motor skills were considerable in boys than girls. In addition, the socio-cultural factors make boys more participate in sports activities than girls, resulting in better performance. It is recommended that officials and planners and administrators of schools pay

special attention to the situation of sports in schools and take basic measures to improve gross motor skills, especially in the girls.

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