Ovidius University Annals, Series Physical Education and Sport / SCIENCE, MOVEMENT AND HEALTH
Vol. XVII, ISSUE 2 Supplement, 2017, Romania
The journal is indexed in: Ebsco, SPORTDiscus, INDEX COPERNICUS JOURNAL MASTER LIST, DOAJ DIRECTORY OF OPEN ACCES JOURNALS, Caby, Gale Cengace Learning, Cabell's Directories

Science, Movement and Health, Vol. XVII, ISSUE 2 Supplement, 2017
September 2017, 17 (2, Supplement): 200-204
Original article

THE EFFECT OF TRADITIONAL CHILDREN'S GAMES ON ORIENTATION AND RHYTHM ABILITY

BUDAK Maya[1], KILIC Mehmet[2], TASKIN Halil[2]

Abstract*

Aim. Aim of this study was to evaluate the effectiveness of traditional children games as goal touch ball and handkerchief on rhythm and orientation ability.

Methods. Children's characteristics were as follows: age = 8.50±0.51 years, height = 1.28±0.07 m, and weight = 28.83±6.68 kg for 18 males; age = 8.42±0.52 years, height = 1.28±0.06 m, and weight = 27.86±3.54 kg for 12 females in thirty children experimental group. age = 8.58±0.52 years, height = 1.298±0.07 m, and weight = 29.12±4.65 kg for 12 males; age = 8.39±0.51 years, height = 1.24±0.06 m, and weight = 26.66±8.99 kg for 18 females in thirty children control group. Traditional children games consisting of 2 games which are named goal touch ball and handkerchief were applied to the children 3 days a week for 8 weeks. Pre – and post testing of children included assessments of rhythm ability (RA) and orientation ability (OA).

Results. There was a significant (P<0.05) effectiveness of traditional children games in rhythm ability. On the other hand, there no was a significant (P>0.05) effectiveness of traditional children games in orientation ability.

Conclusion, it is thought that traditional children's games develop the rhythm ability of children aged 8-9 years by 16% but have no effect in terms of orientation ability. When the results of this study and the literature are taken into consideration, it has been concluded that coordinated abilities should be improved by playing traditional games in children aged 7-10 years in order to arrange, orientate and prepare for future existence of movements of children in primary education.

Keywords: Child, traditional game, coordinates ability

Introduction

When children and games are thought of together, the first thing that comes to mind is kids' games. The kids' games reflect the concept of play in a way of which is created, played and loved by children. All kinds of intellectual and physical actions interest to children are named as children's games (Çolak, 2009). These games provide children to learn the life skills including leadership, respecting rules, sharing, timing, knowing of own culture, and other intellectual skills (Göncü, 2005). As children play such games, they not only get to know their own culture but also say a lot about their future lifes and identities (Turan, 2007). Children's plays support the intellectual and physical development of children who try to be familiar with external environment from the first moments of life. Through these plays, they can experience new and set up a substructure for the next one thanks to gaining and applying new skills within the games. Play activities enable children to gain fast, fluent, and proper motor skills because they are involved to perform a few motor responses within these activities. Additionally, during plays, children have a chance to realize the effects and control of their own bodies on the world (Pehlivan, 2005). A game is an expression way in which a country's cultural richness is reflected. In other words, games carry a country's oral literature, traditions, music, life style, beliefs, traditional wear into future (Özhan, 1997). Traditional games are considered as specific activities required irony, intelligence, and mobility within folk cultures. These games were collectively played during the periods when entertainments were limited (Oguz and Ersoy, 2004). Playing a game requires bodily movements including running, bound, jumping, catching, hold, and other movements. Performing these movements is sort of sport for a body. As children move, the muscles of their bodies move at the same time; which provides the muscles system develop. Games involve children to rhythmically drive their arm-leg moves with other organs' moves. Therefore, games support that children develop movement aesthetic on their bodies (Özhan, 1997). Rhythm ability means that players can perceive external rhythms and reproduce them through motor actions. More precisely, the ability requires that a rhythm produced in a motor memory can be reproduced in motor actions (Minz, 2003). It is that specific dynamic changes on motor movements can be recognized and then,

[1] Health Sciences Institute, Selcuk University, Konya, TURKEY
[2] Sport Sciences Faculty, Selcuk University, Konya, TURKEY
E-mail address: htaskin@selcuk.edu.tr
Received 12.03.2017 / Accepted 09.04.2017

* the abstract was published in the 17th I.S.C. "Perspectives in Physical Education and Sport" - Ovidius University of Constanta, May 18-20, 2017, Romania

movements can be regulated to these dynamic changes (Kankal, 2008). Orientation ability means that body position and movements can be analyzed and changed within the pre-determined time and space related to an action. It requires that body position and its parts' positions can be regulated to the time and space depending on playing field and gravity (Minz, 2003). According to Chick (2015), each play is actually a sort of sport because its outcomes are based on physical skills. Consequently, traditional children's games can be identified as sport activities that competitively played two persons or more than and in which there are winner and loser. The study aims to investigate the effects of traditional children's games on orientation and rhythm abilities.

Method

Experimental Approach to the Problem

This investigation involved sectional design to evaluate the effect of traditional children's games on orientation and rhythm abilities. A total of 60 healthy males (30) and female (30)children volunteered to participate in this study.Orientation and rhythm test was used for subjects.

Subject

A total of 60 healthy males (30) and female (30) children volunteered to participate in this study after having all risks explained to them before the investigation. They were divided randomly into 1 of 2 groups: traditional game group (TGG; n = 30) and control group (CG; n = 30). The mean (SD) age was 8.50±0.51 years, height was 1.28±0.07 m, and weight was 28.83±6.68 kg for 18 boys, the mean (SD) age was 8.42±0.52 years, height was 1.28±0.06 m, and weight was 27.86±3.54 kg for 12 girls in the traditional game group; the mean (SD) age was 8.58±0.52 years, height was 1.29±0.07 m, and weight was 29.12±4.65 kg for 12 boys, the mean (SD) age was 8.39±0.51 years, height was 1.24±0.06 m, and weight was 26.66±8.99 kg for 18 girls in the control group. Following randomization, the 2 groups did not differ significantly ($p>0.05$) in any of the dependent variables.

Prior to data collection, all participants signed a university approved consent form. After receiving a detailed explanation of the study's benefits and risks, all subject signed an informed consent document that was approved by the local ethics committee. None of the subjects reported any medical or orthopedic problems that would compromise his participation and performance in the study.

Procedure

To evaluate the effect of traditional children's games on orientation and rhythm abilities, we applied a testing procedure that included measurements of orientation and rhythm ability. Subjects' height is measured with an instrument sensitive to 1 mm. Their body weight is measured with a weigh-bridge sensitive up to 20 g while they are dressed in only shorts (and no shoes).

Height variable is in terms of meters, and body weight variable is in terms of kilograms. Numbered health ballrunningtest was used to evaluate orientation ability of the subjects and the rhythm test was used to evaluate the rhythm ability. Each subject was familiarized with the testing procedures prior to data collection. A traditional game program consisting of handkerchief and dodgeballwas applied to the children 3 days a week (Monday, Wednesday, and Friday) for 8 weeks. Testing was conducted before and after 8 weeks of traditional game group. Subjects abstained from physical activity not related to the study during the testing period. Furthermore, during the testing periods and throughout the 8 weeks of traditional game group subjects were instructed to maintain normal dietary habits. The methodology used during the tests is summarized in the following paragraphs.

Numbered health ball running test for orientation ability

As shown in Figure 1, five health balls 3 kg were placed on a flat floor within a half circle, 1.5 meters apart. Children and a 4 kg health ball are kept behind 3 kg health balls. Before the test begins, children are told to stand in front of a 4-kg health ball, which will be the opposite of 6 health balls.The child who starts the test returns from the position hewas in with the command, first touches the 4 kg health ball on the front and is guided by the person who redirect the test on the 3 kilograms of health balls.

The child touches the so-called number health ball and the jogger moves to the starting position.The child starts the test a second time without waiting, and once he has made his return, he first touches the 4 kg ball and is then redirected by the test coach to one of the numbered balls. This process is repeated 3 times and the test is completed. Each child makes 1 trial and then the test is applied. The test score is recorded as second. The test is administered each child twice and the best score is recorded (Chib 2000; Minz 2003; Singh 2004).

Ovidius University Annals, Series Physical Education and Sport / SCIENCE, MOVEMENT AND HEALTH
Vol. XVII, ISSUE 2 Supplement, 2017, Romania
The journal is indexed in: Ebsco, SPORTDiscus, INDEX COPERNICUS JOURNAL MASTER LIST,
DOAJ DIRECTORY OF OPEN ACCES JOURNALS, Caby, Gale Cengace Learning, Cabell's Directories

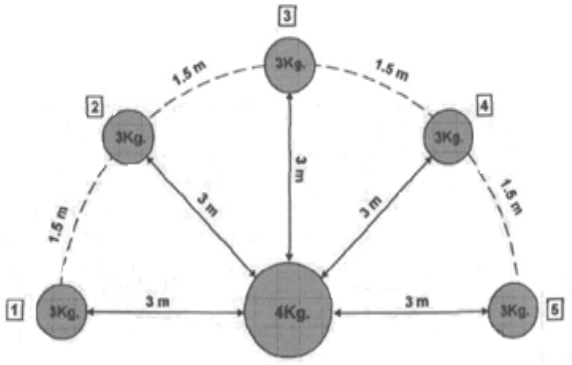

Figure 1. Numbered health ball running test for orientation ability (Chib 2000; Minz 2003; Singh 2004).

Rhythm Ability Test

It's shown in fig.2 that the subjects had to run a distance of 30 meters with maximum sprinting speed, marked between the two lines. The sprinting time of each subject was taken with the help of a photocell. In the second attempt, the subject ran at a particular rhythm with maximum speed through eleven gymnastic hoops of one-meter diameter each arranged systematically as arrange. Three hoops were kept in sequence adjacent to each other at a distance of 5 meters from the starting line. Similarly, another three hoops were placed 5 meters prior to the finish line. Five more hoops were arranged sequentially in the middle of the running distance. The subjects had to run these hoops by stepping in each one of them adjusting him to new self-rhythm (Chib 2000; Minz 2003; Singh 2004; Verma 2014).

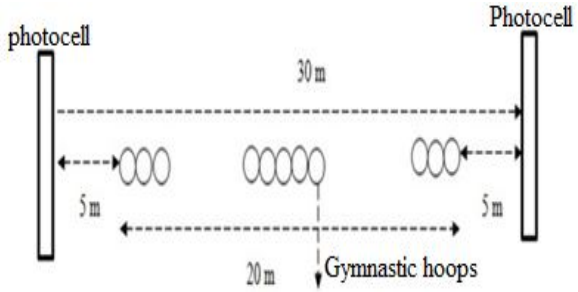

Figure 2. Rhythm ability test(Chib 2000; Minz 2003; Singh 2004).

Statistical analysis

The IBM SPSS 22 statistical package program was used in the calculation and evaluation. One-Sample Kolmogorov-Smirnov test was used to test whether the data showed normal distribution.It has been found that the data show normal distribution.The variance equations of the data were tested by the Levene homogeneity test. The Independent-Samples T test was used for the parametric tests to compare the traditional game and control group test values. In the group comparison, Paired-Samples T test was used. The error level in this study was assessed as 0.05.

Results

Table 1. Descriptive Statistics for children.

Variables	Traditional game group		Control group	
	Boy (N=18)	Girls (N=12)	Boy (N=12)	Girls (N=18)
	Mean±S.D	Mean±S.D	Mean±S.D	Mean±S.D
Age (years)	8.50±0.51	8.42±0.52	8.58±0.52	8.39±0.51
Height (m)	1.28±0.07	1.28±0.06	1.29±0.07	1.24±0.06
Weight (kg)	28.83±6.68	27.86±3.54	29.12±4.65	26.66±8.99

Table 2. Comparison of pretest and posttest values of the rhythm and orientation ability of the children in terms of traditional game group and control groups

Variables	Group	N	Mean	S.D	T	P
RA pre-test (s)	Traditional game group	30	2.22	0.98	1.079	0.285
	Control group	30	1.98	0.82		
RA post-test (s)	Traditional game group	30	1.33	0.92	0.164	0.451
	Control group	30	1.49	0.74		
OA pre-test (s)	Traditional game group	30	10.07	0.96	1.678	0.099
	Control group	30	10.47	0.89		
OA post-test (s)	Traditional game group	30	10.27	1.13	0.557	0.580
	Control group	30	10.46	1.52		

When examined in Table 2, it was found that there was no statistically significant difference between experimental and control groups (P> 0.05) in comparison of pre-test and post-test of rhythm

Ovidius University Annals, Series Physical Education and Sport / SCIENCE, MOVEMENT AND HEALTH
Vol. XVII, ISSUE 2 Supplement, 2017, Romania
The journal is indexed in: Ebsco, SPORTDiscus, INDEX COPERNICUS JOURNAL MASTER LIST,
DOAJ DIRECTORY OF OPEN ACCES JOURNALS, Caby, Gale Cengace Learning, Cabell's Directories

ability, orientation ability pre-test and post-test of children.

Table 3. Comparison of pretest – posttest values ofRA and OA with respect totraditional game group and control groups.

Variables		Mean	S.D	T	P
Traditional game group	RA pre-test (s)	2.23	0.98	4.486	0.000*
	RA post-test (s)	1.33	0.92		
	OA pre-test (s))	10.07	0.96	1.071	0.293
	OA post-test (s)	10.27	1.13		
Control group	RA pre-test (s)	1.98	0.82	3.676	0.001*
	RA post-test (s)	1.49	0.74		
	OA pre-test (s)	10.47	0.89	0.056	0.956
	OA post-test (s)	10.46	1.52		

*P<0.05

As shown Table 3, it was found to be significantly lower the rhythm ability post-test values thanpre-test values (P<0.05) in the traditional game group. On the contrary, there was no statistically significant difference between the orientation ability pre-test and post-test values with respect to the traditional game group (P> 0.05). In addition, it was found to be significantly lower the rhythm ability post-test values than pre-test values (P<0.05) in the control group. On the other hand, there was no statistically significant difference between the orientation ability pre-test and post-test values with respect to the control group (P> 0.05).

Discussion

This study aims to investigate how traditional children's games suggested to be played in public schools by Turkey Ministry of Education affect orientation and rhythm abilities which are two of the coordinative abilities. Based on the data gathered from control and experimental groups, the research indicates that the traditional children's games played in public schools have a statistically significant impact on rhythm ability (P<0.05); whereas, they do not have a statistically significant effect on orientation ability.

In literature, coordinative abilities are usually investigated associating to different sport branches (Singh, 2004; Minz, 2003; Tsetseli et.al. 2010). As long as children engage with some coordinative exercises during childhood period, their performance and skills related to racket sports develop (Tsetseli et.al. 2010). In a study by Verma et.al. (2012) comparing coordinative abilities of the taekwondo players in different weight categories, it was found that orientation abilities in different weight categories were respectively 7.10, 7.60, 8.80, 9.20, 11 and 11.80 seconds. Also, rhythm abilities in different weight categories were recorded as 0.86, 0.89, 0.91, 0.99, 0.97, 1.1, 1.3, and 1.5 seconds. Handkerchief play and dodgeball suggested as traditional children's games to play in public schools by Turkey Ministry of Education are similar to semi-interactive sports. As looking at how coordinative abilities are performed and develop in semi-interactive sports, orientation ability does not change significantly to both experimental-control groups and gender factor (Singh, 2004). However, Singh (2004) found that semi-interactive sports had an impact on rhythm ability. Because the suggested children's games in Turkey public schools are considered in the context of semi-interactive sports, the findings about orientation and rhythm ability in Singh's research support the findings of this research. Manial, Sabastian and Thomascompares coordinative abilities of female basketball and volleyball players in secondary schools (Minz, 2003). According to their study, female volleyball players have greater orientation and reaction abilities than female basketball players have. Singh (2004) identifies basketball as a semi-interactive sport; otherwise volleyball as a non-interactive sport. With reference to Singh's assumptions, the finding that basketball as a semi-interactive sport does not have a significant effect in Manial, Sabastian, and Thomas's study shows parallelism with the finding that handkerchief and dodgeball similar to semi-interactive sports do not have a significant effect on orientation ability. However, Tsetseli et.al. (2010) contend that orientation ability is an essential and important ability for basketball as a semi-interactive sport. Furthermore, they state that rhythm ability is a required coordinative ability for volleyball as a non-interactive sport. The results from Tsetseliet.al.'s research disprove that handkerchief and dodgeball do not affect orientation ability.

In the study, there is a significant difference between pre-test and post-test rhythm scores of boys in experimental group. The result confirms the findings of Minz's research on rhythm

ability of male badminton players. Minz (2003) examines correlation between twelve male badminton players' performance and coordinative abilities including differentiation, orientation, rhythm, balance, and reaction. According to Singh's categories (2004), badminton is a non-interactive sport. Minz (2003) reaches a conclusion that badminton does not have a significant effect on rhythm ability. This recent study demonstrates that the suggested children's games as semi- interactive sports significantly affect rhythm ability. Both Minz's study (2003) and the recent study confirm Singh's finding (2004) about effect of semi-interactive sports and non-interactive sports on rhythm ability.

Conclusion

Traditional children's games develop the rhythm ability of 8-9 aged children at the rate of %16; however, it is considered that these games do not influence children's orientation ability. Considering the findings of the research and the existing literature, 7-9 aged children need to be played traditional children's games to develop coordinative abilities because developing their coordinative abilities is quite important for primary school children's preparedness. Additionally, the finding that traditional children's games do not affect orientation ability although they affect rhythm ability reveals the necessity of that children play different games to develop different coordinative abilities.

Acknowledgments.

The researchers would like to thank the participants involved in this study.

References

Çolak F, 2009. Geleneksel Kayseri çocukoyunları ve halkbilimselincelemesi, 1. Baskı, Konya. KömenYayınevi, s.15-20.

Chib SS, 2000, Relationship of Selected Psychomotor Variables And Coordinative Abilities to Playing Ability in Volleyball. Lakshmibai National Institute of Physical Education Deemed Universty Degree of Doctor of Philosophy in Physical Education, India.

Chick G, 2015. Games and sports. Retrieved from http://hraf.yale.edu/ehc/summaries/games-and-sports on 29 Nov 2016.

Göncü A, 2005. Oyununçocuğunhayatındakiyeri. Gelişim ve Öğrenme13. Baskı, Ankara. Nobel Yayınları, s. 69-70.

Kankal MB, 2008. 9-12 yaş grubu aerobik cimnastik ve ritmik cimnastik sporcularının fiziksel, fizyolojik ve performans özelliklerinin karşılaştırılması. Ankara Üniversitesi, Yüksek Lisans Tezi, Ankara, s 122.

Minz AK, 2003. Relationship of Coordinative Abilities to Performance in Badminton, Lakshmibai National Institute of Physical Education Deemed Universty Degree of Master of Physical Education, India.

Oğuz MÖ, Ersoy P, 2005. Türkiye de 2004 yılındayaşayangelenekselçocukoynları, Ankara. GaziÜniversitesiThbmeryayınları.

Özhan M, 1997. Türkiye'deçocukoyunlarıkültürü, 1. Baskı. Ankara. FeryalMatbaası, s. 4-26.

Pehlivan H, 2005. Oyun ve öğrenme: Ankara. Anı Yayıncılık, s. 19-23.

Singh K, 2004. Comparision of Selected Coordinative Abilities Among Sportsmen Belonging to Contact, Semi-Contactand Non-Contact Sports Lakshmibai National Institute of Physical Education Deemed Universty Degree of Doctor of Philosophy in Physical Education, India.

Tsetseli M, Malliou V, Zetou E, Michalopoulou M, Kampas A, 2010. Theeffect of a coordinationtraiining program on thedevelopment of tennis service technique. Biology of Exercise, 6(1), 29-36.

Turan L, 2007. Çocuğundünyasındaoyun, Hayal ve Merak Unsurları. Ö.Yılarve L. Turan, (Ed.), Eğitim Fakülteleri İçin Çocuk Edebiyatı 1. Baskı, Ankara. Öncü Basımevi, s.16-27.

Verma K, Sardar B, Mishra P, 2012. Coordinative abilities of taekwondo in different weight categories: a comparative study. International journal of behavioral social and movement sciences, 1(2):75-88.

Verma K, 2014. RhythmicAbility of Handball Players at Outstanding Level of Performance: A Virtual Study. Asian Journal of Multidisciplinary Studies, 2(9).