CORRELATIONS BETWEEN MOTOR SKILLS AND TECHNICAL SKILLS AT FEMALE VOLLEYBALL PLAYERS AGED 11-13 YEARS OLD OF ALBANIA

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ABSTRACT

The development of motor and technical skills are important components that must be programmed in the training of volleyball players. The purpose of this study is to verify a correlation between motor and technical skills to female volleyball players aged 11-13 years old. *Methodology:* A test battery that included eight tests of motor skills and six tests of technical skills evaluated the performance of 20 volleyball players. T-tests for agility ,speed endurance, standing long jump, standing vertical jump with two hands , running vertical jump, medicine ball throwing (2 kg), catching and throwing tennis ball (30 seconds), and chair sit and reach tests were used to determine the fundamental parameters of the motor abilities, while the fundamental technical skills were evaluated via a series of tests focusing on the fundamental elements of the volleyball game: overhand pass, underhand pass, service, service with targeting, spiking into a target (without a net), spiking with a tennis ball into a target zone. The Pearson correlation coefficient r and p-value were used in the data calculation to find the relationship between the variables. *Results:* The results obtained from the statistical processing of data through the SPSS program show that there are no significant correlations between motor skills and technical skills in this age group. There is a significant correlation between running vertical jump and underhand pass (r =.499, p =.025). Also significant but negative is the correlation between speed endurance and technical skill of service (r = -.518; p =.019). The correlations between most of the indicators are weak. *Conclusions:* Results obtained from this study among 11–13-year-old volleyball girls show that technical skills are not at the same rate of development with motor skills. The Pearson correlation analysis indicated that motor skills test results do not correlate significantly with technical skills test results ($p > .05$). Technical training and motor skills training cannot be viewed separately, especially at the ages of 11–13.

Keywords: *correlation, motor skills, technical skills, volleyball players.*

INTRODUCTION

According to Jankovic & Mareli (1995), volleyball is a poly-structural complex sport requiring high-level performance indicators of technique, tactics, motor skills, and psychological readiness. Among the various factors that influence a volleyball team's success

on the court, anthropometrics, physical performance, and technical and tactical skills are among the most significant (Häkkinen, 1993). To establish strong foundations and consistency in volleyball, it is crucial to emphasize technical training from an early age. A well-learned technique guarantees a prosperous future and participants who can compete at a high level. Combining the training of volleyball technical skills with motor skills, especially for ages 10–13, is undoubtedly the optimal combination for the completed and multidimensional volleyball players of the future. It is reasonable to expect that training exercises designed to improve the fundamentals of volleyball will also improve players' motor skills (Nesi et al., 2011). This expectation is reasonable because fundamental volleyball elements require the player to perform a whole series of motoric actions correctly and efficiently. According to Martinovi et al. (2011), modern volleyball play requires players to have a high degree of general motor abilities in addition to particular talents for volleyball play and various player positions. Coordination is optimally developed between the ages of 7 and 14, with the most crucial period occurring between ages 10 and 13 (Drabik Jozef, 1996). Volleyball is an external motor stereotype technique that requires continuous control and correction of movement. This control is demonstrated by a series of motor characteristics: movement direction, movement speed, movement tonus, movement force, movement amplitude, and coordination performance levels (Kati et al., 2006). Children who have mastered these skills are ready to begin the exciting process of developing specific skills and moving them vigorously throughout a lifetime in a wide range of play, sports, dance, and recreational activities. According to Ipec et al. (2006), by identifying which motor skills are related to the sport-specific technical and tactical skills, the necessary items can be combined with these skills to activate the muscle and nerve transmission functions in this direction and support the athletes' technical development. Several researchers agree that there is a positive correlation between motor abilities, sporting performance, and sporting efficacy, furthermore, athletes with a high level of motor skills perform better on physical fitness assessments and sports-specific skills.

Aim and objectives: The purpose of this study is to verify the correlation between motor and technical skills of female volleyball players aged 11-13.

In order to fulfill the aim of the research we set the following **objectives**:

- Selection of eight tests of motor skills and six tests of technical skills.
- Testing and collecting the results.
- Assessing of all obtained results.
- Analyzing the impact that each skill has on the other's outcomes.

METHODOLOGY

Participants

Twenty young female volleyball players between the ages of 11 and 13, who were members of the "Galaktikët" Sports Association in Tirana, Albania, took part in the research study. The tests that will be administered to the children participating in the study have received the signed consent of their parents. Before beginning the test, the testing protocol was explained in detail to the participants. In two days, the testing procedure was completed. The technical assessments took place on the second day after the motor tests on the first day. This entire procedure of measurements and testing was conducted under the supervision of volleyball specialists from Albania. Each athlete was allowed two attempts, with the highest result being recorded. Two-minute breaks separated each trial, and a five-minute break separated each test. The testing procedure was preceded by a warm-up consisting of moderate-intensity exercises for approximately 20 minutes.

Tests

T-tests for agility (with tennis ball displacement), speed endurance, standing long jump, standing vertical jump with two hands (blockade jump), running vertical jump, medicine ball throwing (2 kg), catching and throwing tennis ball (30 seconds), and chair sit and reach tests were used to determine the fundamental parameters of the motor abilities, while the fundamental technical skills were evaluated via a series of tests focusing on the fundamental elements of the volleyball game: overhand pass, underhand pass, service, service with targeting, spiking into a target (without a net), spiking with a tennis ball into a target zone.

Procedure

For each parameter of motor and technical skills, the mean arithmetic values, maximum, minimum, and standard deviations were calculated, and the relationship between them was determined using a Pearson correlation analysis using the statistical program SPSS. In the data analysis, the significance of the correlation was identified by calculating the Pearson correlation coefficient.

RESULTS

Table 1 shows the arithmetic mean values (Mean), maximum values (Max), minimum values (Min), and standard deviation (SD) of all variables of motor skill tests for 20 girls of age 11-13 years old, volleyball players.

Table 2 shows the arithmetic mean values (Mean), maximum values (Max), minimum values (Min), and standard deviation (SD) of all variables of technical skill tests for 20 girls of age 11-13 years old, volleyball players.

Table 1. *Descriptive statistics of motor skills variables*

	T-test	*Speed endurance*	*Standing long jump*	*Standing vertical jump (blockade)*	*Running vertical jump*	*Medicine ball throwing*	*C&Th tennis ball*	*Chair sit and reach*
N	20	20	20	20	20	20	20	20
Mean	19.012	28.228	128.35	224.45	230.45	310.75	19.7	7.2
Max	23.02	31.02	150	248	252	400	26	25
Min	16.62	25.39	100	209	210	250	14	-3
SD	1.59	1.93	14.81	9.91	12.20	49.15	3.09	6.22

Table 2. *Descriptive statistics of technical skills variables*

	Overhand pass	*Underhand pass*	*Service*	*Service with targeting*	*Spiking into a target zone*	*Spiking with tennis ball*
N	20	20	20	20	20	20
Mean	1.85	0.9	1.55	0.2	0.75	0.55
Max	3	2	5	2	3	1
Min	1	0	0	0	0	0
SD	0.58	0.55	1.35	0.52	0.85	0.51

Table 3 shows the correlation values (correlation coefficient r and significance p-value) between motor skills and technical skills. The Pearson correlation analysis indicated that motor skills test results do not correlate significantly with technical skills test results ($p > .05$). In general, the data in Table 3 indicate that the relationship between motor and technical skills is weak. There was no one result of a strong and significant correlation between the two indicators. Speed endurance has a significant and moderate but negative correlation with the service ($r = -.518$, $p = .019$). There was a significant correlation between underhand passing and running vertical jump ($r = .499$; $p = .025$). The correlation values for spiking into a target zone and spiking with a tennis ball are nearly identical, indicating a weak correlation between the indicators. A moderate but not significant correlation exists between the chair, sit and reach, and service ($r = .422$, $p = .064$) and between underhand pass with standing vertical jump ($r = .402$, $p = .079$). Between Standing long jump and technical skills was almost no correlation. Speed endurance was in a negative correlation with all technical indicators except overhand pass ($r = .68$, $p = .776$). The correlation between the two indicators is either weak or nonexistent in the majority of the data.

Table 3. *The correlation values (correlation coefficient r and significance p-value) between motor abilities and volleyball technical skills*

		Overhand pass	Underhand pass	Service	Service with targeting	Spiking into a target zone	Spiking with tennis ball
T-test	Pearson Correlation	-,018	-,049	-,100	,306	,145	,366
	Sig. (2-tailed)	,939	,837	,674	,189	,542	,113
	N	20	20	20	20	20	20
Speed endurance	Pearson Correlation	,068	-,344	-,518*	-,397	-,113	-,076
	Sig. (2-tailed)	,776	,137	,019	,083	,636	,751
	N	20	20	20	20	20	20
Standing long jump	Pearson Correlation	,061	,236	,103	-,057	-,172	-,062
	Sig. (2-tailed)	,799	,317	,667	,811	,468	,796
	N	20	20	20	20	20	20
Standing vertical jump (blockade)	Pearson Correlation	,157	,402	,200	,103	-,366	,177
	Sig. (2-tailed)	,509	,079	,398	,664	,112	,455
	N	20	20	20	20	20	20
Running vertical jump	Pearson Correlation	,238	,499*	,277	,134	-,404	,254
	Sig. (2-tailed)	,313	,025	,238	,575	,077	,280
	N	20	20	20	20	20	20
Medicine ball throwing	Pearson Correlation	-,178	,061	,368	,199	-,222	-,143
	Sig. (2-tailed)	,452	,798	,110	,401	,347	,547
	N	20	20	20	20	20	20
C&Th tennis ball	Pearson Correlation	,263	,197	,292	,006	-,290	,043
	Sig. (2-tailed)	,262	,405	,212	,978	,215	,856
	N	20	20	20	20	20	20
Chair sit and reach	Pearson Correlation	,176	,375	,422	,224	-,238	-,168
	Sig. (2-tailed)	,457	,103	,064	,343	,312	,480
	N	20	20	20	20	20	20

DISCUSSION

The study carried out on volleyball girls aged 11–13 years revealed that the good results of motor skills were not significantly correlated with the effective performance of volleyball technical skills. The technique of learning the elements is a long process that depends on many factors, where age and experience play a crucial role. For volleyball success, basic motor skills must include a variety of explosive strengths, speed, balance, endurance, flexibility, coordination,

agility, and precision. These skills serve as the foundation for developing more specialized motor skills, which can only be developed under situational training conditions. Results obtained from this study among 11-13-year-old volleyball girls show that technical skills are not at the same rate of development as motor skills. Fundamental technical preparation has an important place for 11-13 years old players. It represents the basis of various movements, which will later contribute to easier learning and mastering of the complex elements of techniques. Based on the data, it was noticed that a good result in the high jump does not necessarily provide us with an accurate spike with a tennis ball. Contrary to what we could expect regarding the correlation between medicine ball throwing and service, it is obvious that the correlation between them is weak, giving us the idea that the correct technique learned is a dominant factor in effective service.

Motor development in the elderly is characterized by a continuous process of changes in functional capacity (Gallahue & Donnelly, 2007). Studies show that the prepubescent period is characterized by a rapid increase in motor abilities. In tests of precise performance in a complex situation, rapid and precise movement skills, and foot skills, 11- to 12-year-olds were found to have high levels of motor skills. However, females' manual skills attained their peak between the ages of 13 and 14, typically in the middle of puberty.

CONCLUSIONS

In summary, findings on the relationship between motor skills and technical skills specific to volleyball in 11–13-year-old players indicate a weak correlation. Learning the technical elements of volleyball can be a difficult task for the athlete, and with all the dedication and hard work that it requires, it takes a lot of time, and the result comes later. It is a fact that the technique itself is boring for children, and often the coaches encounter difficulties in the training plan.

Galluhe & Donnelly (2007) argued that "proximodistal development refers specifically to the progression in control of the musculature from the center of the body to its most distant parts. Young children, for example, are able to control the muscles of the trunk and shoulder girdle sooner than they can gain control over the muscles of the wrist, hand, and fingers", which lets us understand the difficulty of technique at this age group. Technical training and motor skills training cannot be viewed separately, especially at the ages of 11–13. Motor skills are very significant indicators for evidencing the volleyball player of the future. The positive influence of motor skills on the quality of the training process for young volleyball players has been determined. Volleyball coaches should be recommended to consider the training of motor skills in addition to the technical elements of the volleyball game, as they effectively increase the athletes' psychophysiological functions, physical fitness, and technical skills. The weak correlation at this age doesn't mean that the skills have no

impact on each other, however, the fact that the children are growing and the technique itself requires more time to produce results causes their performances to differ.

REFERENCES

Bompa, T. O. (1999). *Periodization training: theory and methodology-4th: theory and methodology-4th*. Human Kinetics publishers.

Drabik, Jozef. *Children and Sports Training*. Island Pond, VT: Stadion, 1996.

Gallahue, D. L., & Donnelly, F. C. (2007). *Developmental physical education for all children*. Human Kinetics.

Grasso, Brian. "Coordination and Movement Skill Development – The key to long-term athletic development." Mytpi.com. *Improve My Game*. 12/3/12.

Ipek Z, Ziyagil MA. Erkek ve sayan voleybolcularin fIzIksel özellIklerI ve fIzyolojIk kapasItelerInIn sedanterlerle karşılaştirilmasi/comparison physical characteristics and physiological capacities of male and female volleyball players with controls. *Beden Eğitimi ve Spor Bilimleri Dergisi.* 2002; 4(2).

Häkkinen, K. (1993). Changes in physical fitness profile in female volleyball players during the competitive season. *The Journal of sports medicine and physical fitness*, *33*(3), 223-232.

Janković, V., & Marelić, N. (1995). *Odbojka* [Volleyball]. Zagreb, HR: Fakultet fizičke kulture.

Katić R, Grgantov Z, Jurko D. Motor structures in female volleyball players aged 14–17 according to technique quality and performance. *Collegium Antropologicum.* 2006; 1:103-112.

Martinović, J., Dopsaj, V., Kotur-Stevuljević, J., Dopsaj, M., Vujović, A., Stefanović, A., & Nešić G. (2011). Oxidative stress biomarker monitoring in elite women volleyball athletes during a 6-week training period. *J Strength Cond Res*, 25(5), 1360–1367. doi: 10.1519/ JSC.0b013e3181d85a7f; PMid: 21157395

Nešić, G. Sikimić, M., Ilić, V., & Stojanović, T. (2011). Play structure of top female volleyball players: explorative factorial approach. *Br J Sports Med*, 45, 541. doi: 10.1136/ bjsm.2011.084558.24

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INFLUENCE OF PHYSICAL EXERCISES ON QUALITY OF LIFE POST-COVID-19 DISEASE

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ABSTRACT

Physical activity during the COVID pandemic is regarded as being connected, with higher levels of physical activity corresponding to higher levels of quality of life. The purpose of the study is to evaluate the influence of physical exercises on Quality of life after COVID-19. Subject of the study is the influence of physical exercises on quality of life post COVID-19. Object of study is the influence of physical exercises. 56 people aged between 25 and 65 years (27 of them in the experimental group and 29 in the control group) were observed and examined with the SF-8 health survey. Each individual was examined for 30 days. They were given to complete and rate the survey either face-to-face or by filling the survey as an online form. The mathematic-statistic results have been processed by MS Excel. The results show that the average values from the first to the fourth date increased gradually in both groups, but in the experimental group they obviously increased more, with scores higher on each date. It seems that in every single date the scores of the experimental one are higher. This gives us reason to claim that these differences are due to the beneficial effect of the applied author's methodology for physical activity. Data from the compared results of the two groups clearly suggests that the Physical health and Mental health have increased due to the beneficial effect of exercise, which confirms the health benefits of physical activity. Given that the COVID-19 pandemic has affected various aspects of lifestyle, health, physical activity, and quality of life are all thought to be strongly related. We can confirm that physical exercises have an influence on quality of life, as mental and physical health are interlinked and they affect the quality of life, furthermore, positive results are achieved from conducting exercise methodology within a month and meeting better physical activity guidelines. In conclusion, the results of this study demonstrated that the physical exercises were able to increase the quality of life when applied methodically, and will improve and increase overall the physical and mental state after Covid-19 disease.

Keywords*: Physical activity, quality of life, health, exercises, COVID-19*