

**STUDY OF SPORTS TALENT (CHARACTERISTICS OF ELITE AND
NON-ELITE JUNIOR TENNIS ATHLETES IN JAMBI CITY
BASED ON GENDER)**

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Abstract

The biomotor skills held by junior tennis players in Jambi City were unknown at the time this research was done. Based on specific factors, this sort of research compares (compares) the results of 48 participants in a total sample. The anthropometry (height and weight), motion coordination (balance beam, jumping sideways, moving sideways, endurance shuttle run, and eye-hand coordination) and physical talents of junior tennis players were measured in order to determine their biomotor skills (shoulder rotation, sit and reach, standing broad jump, curl-ups, knee push-ups, 10x5m shuttle run and endurance shuttle run). Two-way analysis of variance (ANOVA) was used to assess the data with a 2x2 factorial design. The study that was carried out by the researchers produced the following findings: (1) In Jambi City, there were variations in the biomotor skills of elite and non-elite junior tennis players with a Sig value of 0.044 0.05. (2) There were biomotor differences between junior tennis players that were male and female with values Sig 0.000 0.05. (3) The athlete group and gender have an interaction on biomotor skills with a Sig value of 0.020 0.05.

Keywords: *Tennis; Biomotor*

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INTRODUCTION

Indonesia, with the fourth most populous potential in the world, should have high achievements and competitiveness in various fields, as well as in sports. There are lots of numbers and types of competitions that are contested at the international level, the Asian Games, the Olympics, which are not tied to the existence of body posture, but we are fixated on only achieving in certain

branches at these various international events. Sports achievement is largely determined by the quality of training and coaching. This increase in sports training and coaching can be achieved supported by the application of various scientific disciplines and technology (Shi et al., 2022).

Systematic and continuous development of sports achievements must of course be supported by appropriate training strategies and methods so that they will be more effective and efficient in achieving the expected goals. In the process of achieving each athlete's achievements in sports activities, the physical, psychological and social development of athletes is an aspect that is no less important to pay attention to in the training process. To achieve high achievement in sports, coaching must start from an early age so that it can produce optimal results. This is in accordance with PERPRES regulation No. 86 of 2021 concerning the Grand Design of National Sports CHAPTER I article 1 which states that: "The Grand Design of National Sports, hereinafter abbreviated as DBON, is a master plan document that contains policy directions for fostering and developing national sports which are carried out effectively, efficiently, superiorly, measurably, systematically, accountable, and sustainable within the scope of sports education, recreational sports, achievement sports, and the sports industry".

From the description above, it is clear that to achieve success in Indonesian sports in international matches, maximum effort is needed. Therefore it is necessary to build an effective, measurable and efficient sports coaching system in accordance with the draft Presidential Decree Number 86 of 2021 concerning the Grand Design of National Sports (DBON), there are many factors that determine good athlete seeds in sports which are called sports seeds. have talent. (Pion, 2015) argues that: "talent is a genetic ability obtained by individuals in a limited population". This limited ability is an element of an element and a superior aspect of a person compared to their peers or other people, so that it will illustrate a significant difference from each of them. Giftedness is a concept that

has biological roots, which is a high level of intelligence as a result of the advanced and rapid integration of functions in the brain including sensory (physical sensing), emotion, cognition, and intuition. Because of the progress and acceleration of this development, individuals need special services and activities provided by coaches so that their abilities develop optimally (Fang et al., 2022).

Based on this explanation, in looking for athletes who have good talent in sports, it is necessary to have a clear method and system that is believed to be able to produce the expected early age athletes. In addition, it is necessary to know the elements that support good talent. According to (Pion, 2015): "anthropometric tests, physical abilities and movement coordination are able to predict the results of ability levels for 2 years later, with motion coordination factors being the main element in the athlete's prediction process". Supported by the opinion of (Robertson, 2018) that: "in several sports such as table tennis, tennis and badminton, the assessment of motion coordination is an important element in the long-term athlete development process or long-term athlete development (LTAD)".

Thus, to determine giftedness, efforts are needed to find out the various components of giftedness in all sports, such as tennis. According to (Sukadiyanto, 2005) said, the game of tennis is included in the type of open skill (open skill), meaning that the environmental conditions for playing tennis are difficult to predict and control by tennis players. It is necessary to identify the talent of tennis athletes based on anthropometry, physical ability and movement coordination as a model for determining the superiority of talent for tennis players (Maliki et al., 2021).

To get athletes with good quality, PELTI as the parent of tennis always conducts periodic selection. However, along with the development of science and technology in the field of sports, player selection through competition or by accident is felt to be less and less effective. Although it cannot be denied that there will indeed be athletes who will be born with this method. Seeing that many developing countries are already using measurable identification instruments, it is

appropriate for us to also adopt such a method to produce athletes with potential in the sport that is right for them.

METHOD

Based on the objectives and research variables that have been set, the research design used is a 2x2 factorial design. The aim of this study was to obtain convincing evidence about differences in anthropometric characteristics, physical abilities and biomotor abilities based on the athlete's group and gender. This research was carried out at the Kotabaru Tennis Court, Jambi City in March - April 2022. The target population in this study were all Jambi City Court Tennis athletes in the junior age group (10 to 15 years old) in Jambi City, totaling 48 athletes. The biomotor abilities of junior tennis athletes were obtained through tests using instruments: anthropometry (height and weight), motion coordination (balance beam, jumping sideways, moving sideways, endurance shuttle run and eyehand coordination) and physical abilities (shoulder rotation, sit and reach, standing broad jump, curl-ups, knee push-ups, 10x5m shuttle run and endurance shuttle run) (Syahputra dkk, 2022).

RESULT AND DISCUSSION

Table 1. Data description

No	Item Tes	Elit Junior				Non-Elit Junior			
		Mean	Stdev	Max	Min	Mean	Stdev	Max	Min
<i>Antropometri</i>									
1	<i>Stature</i>	154,17	10,98	172	136	143,04	17,15	179	120
	<i>Body Weight</i>	47,83	13,01	76	28	44,33	17,39	88	20
<i>Physical Peformance</i>									
2	<i>Shoulder Rotation</i>	81,42	22,93	20	120	84,17	19,98	140	50
	<i>Sit and Reach</i>	27,88	10,15	47	13	21,60	7,00	31	6,5
	<i>Standing broad Jump</i>	1,47	0,39	2,39	1	1,34	0,35	2,2	0,8
	<i>Curl-Up</i>	16,67	4,00	25	10	13,50	5,23	22	6
	<i>Knee Push-Up</i>	18,92	7,19	32	6	11,50	5,59	23	2

			14,5	46,6			28,4		
	<i>Shuttle Run</i>	23,64	9,06	2	6	21,06	4,24	5	14,6
	<i>Endurance Shuttle Run</i>	3,26	1,87	8,15	0,6	2,40	1,39	5,5	0,6
	<i>Motor Coordination</i>								
			11,7				11,7		
	<i>Balance Beam</i>	54,13	9	72	27	53,88	3	72	27
			16,1				16,1		
3	<i>Jumping Sideways</i>	58,42	9	83	15	58,54	1	83	15
	<i>Moving Sideways</i>	19,58	6,90	49	11	19,79	6,96	49	11
	<i>Eyehand Coordination</i>	22,08	8,97	41	2	21,42	9,55	41	2
		3171,	692,			3123,	714,		190
	<i>Shuttle Throw</i>	1	4	4379	1905	2	9	4379	5

Before testing the hypothesis, first research the homogeneity test and get a significance value (p) $0.099 > 0.05$, which means that the data group being tested comes from a population that has the same (homogeneous) variance. In addition, a normality test was also carried out to determine whether the data used in the study were normally distributed or not. calculating the normality test using the help of SPSS version 26 with Shapiro Wilk, a sig value of $0.424 > 0.05$ is obtained. So it can be concluded that the data used in this study are normally distributed.

Discussion

Sample Test

The outcomes demonstrated that: (1) There were differences in the biomotor abilities of elite and non-elite junior tennis athletes in Jambi City with values Sig 0.044 0.05, (2) There were differences in the biomotor abilities of male and female junior tennis athletes in Jambi City with values Sig 0.000 0.05, and (3) (3) In Jambi City, junior tennis players' biomotor abilities are influenced by their gender, with a Sig value of 0.020 to 0.05 between school locations and gender. (4) Male junior tennis players' biomotor abilities differ from those of female junior tennis players. There were variations in the biomotor skills of elite and non-elite female junior tennis players, with a value of Sig 0.014 0.05 for elite and non-elite men in Jambi City, (5) Elite and non-elite female junior tennis players in Jambi City who received a value of Sig 0.025 0.05 differed in their biomotor skills.

Today, sport plays an important role in various aspects of human life, both in terms of health, education, the formation of human character, and upholding national dignity in the international world. Therefore it is very necessary to cultivate a passion for sports, not only to exercise as a place for recreation to provide physical health and spiritual happiness but also to be able to direct people to develop and maximize their abilities to reach the peak of achievement.

There are many sports that are able to present the good name of the Indonesian nation in the world, one of which is the sport of tennis, although currently Indonesian athletes have not been able to give their best achievements in the international world but there are no Indonesian athletes who are able to take part in international tennis. Tennis is a sport that is usually played between two players or between two pairs of two players each. Each player uses a racket to hit a rubber ball. The object of the game is to play the ball in such a way that players cannot return the ball (Teunissen et al., 2021).

Tennis is a type of sport that is popular and much-loved by the wider middle class and above (Arifin et al, 2012). Tennis is a sport that is usually played between 2 people or 2 pairs, each consisting of 2 people, using a racket to hit a racquet ball aims to play the ball in a certain way so that the opposing player cannot return the ball.

Athletes are individuals who are unique and have their own talents and then have their own patterns of behavior and personality and have a background in life that influences them specifically (Rusdianto in Saputro, 2014). Elite athletes are also known as professional athletes. Where a human being cultivates a branch of professional sports. Based on Article 1 Number 15 of Law Number 3 of 2005 concerning the National Sports System, that: "Professional sports are sports that are carried out to earn income in the form of money or other forms based on sports skills".

The limits for sports actors at these two levels have also been regulated clearly and unequivocally. Article 55 of the SKN Law confirms that: "Everyone

can become a professional athlete after fulfilling the following requirements: (1) Having been an amateur athlete who participates in competitions periodically; (2) Meet the required employment conditions; (3) Meet the required medical conditions; and (4) Obtaining a written statement regarding the relinquishment of the status of an athlete from an amateur athlete (5) Becoming a professional athlete that is known by the parent organization of the sports branch.”

Non-elite athletes are usually called amateurs. This definition is in line with the limits set by Law No. 3 of 2005 concerning the National Sports System (SKN). In article 1 of the law it is explained that: "amateur sports are sports that are carried out on the basis of love or a passion for sports". Judging from the aspect of the goal, amateur sports aim to guide athletes to achieve the highest performance (Rezaei & Mouritzen, 2021).

The statement "talent is a genetic capacity acquired by people in a small population" is made by (Pion, 2015). When compared to peers or other people, this restricted ability is something that the person possesses that sets them apart significantly from the others. Galton stated that "factors that can influence the development of children's talents include nature (genetics) and nurture (environment)" in (Baker et al., 2007). According to some professional definitions, talent can be justified as an innate quality that yet requires ongoing practice and growth. A method that can discover children's potential talents is necessary in order to find players who are actually talented in particular sports.

The talent identification program aims to identify every potential in preparing young athletes to compete successfully at the highest sports level (Olympics) in the future (Baker et al., 2018). This program is an innovation in the system of increasing international sports achievements. Talent identification is generally used in professional sports or the Olympics to develop young athletes into future sports stars (Rongen et al., 2018). The talent identification system is very important to be used to reveal and see the profile of children in several potential sports for them to be related to movement coordination, age, gender (Robertson et al., 2018). With the existence of a talent identification or detection

system, it will be able to support all children to participate in sports, reduce the rate of children who stop pursuing sports, develop sports achievements at the world level, and change unhealthy lifestyles (sedentary lifestyle). into a healthy lifestyle (active lifestyle) (Faber et al., 2017).

Many experts have suggested that research efforts should be transferred from Talent Identification (TID) and detection towards talent development and guidelines (Vaeyens et al., 2008). Because in preparing athletes who excel, it is not enough to just identify and select, the next process is that coaches and stakeholders must carry out long-term development which aims to recognize each athlete's development (Gonçalves et al., 2012). Therefore, talent identification and development programs are often debated by some sports scientists because they are the basis of international sports success and some modern sports development systems (Bjørndal et al., 2015).

Efforts to achieve maximum performance require a lot of supporting knowledge. Bompa in (Sukadiyanto, 2011) argues that supporting knowledge in the world of sports includes: anatomy, physiology, medicine, biomechanics, statistics, tests and measurements, psychology, motor learning, education, nutrition, history and sociology. The age of 7-15 years is said to be a period of developing basic movements and playing skills which includes technical, physical and tactical development (Nasrullah et al, 2021). Coaching and developing abilities, skills and character from an early age and at a young age is more effective than an athlete who is already in the adult phase.

The gender factor also determines a person's level of participation and productivity in carrying out various activities, including tennis. As previously discussed, that men and women have anatomical and physiological differences. This will also have an impact on the movement abilities they have. The results of the research that the researchers have conducted show that there are differences in bimotor abilities between male and female junior tennis athletes. According to Hungu in (Nursanti and Dinaryati, 2022) gender is the biological difference

between women and men since a person is born. The biological differences and biological functions of men and women cannot be exchanged between the two, and their functions remain with the men and women who are on earth. The characteristics of biological sex are innate, permanent, and cannot be exchanged (Abdullah, 2004).

Gender and athlete classification (elite and non-elite) will interact with the athletes' biomotor abilities. From the data the researchers obtained, elite athletes have better biomotor abilities when compared to non-elite athletes. This can happen because of more experience fighting with tougher opponents. The moments that occur on the field when competing will be very different when training, especially when dealing with strong opponents. There are many unexpected movements that require an athlete in the elite class to have good movement skills in order to be able to keep up with the opponent's game. In contrast to non-elite athletes whose opponents also have equal abilities so that during a match it will not be too difficult for them to read their opponent's movements so they can keep up with their opponent's movements.

(David H. Maister, 1998) says that professionals are people who are relied upon and trusted because they are experts, skilled, knowledgeable, responsible, diligent, full of discipline, and serious in carrying out their job duties. It is understandable that to become a professional requires persistent struggle, so that one is skilled and can be recognized according to one's field, including an athlete.

There is no need to doubt the abilities of professional athletes or also known as elite athletes. The profession that is carried as a tennis player is something that is attached to them because of the efforts and achievements that are obtained with full of struggle. These professionals are obtained including structured training, following the correct program and experience of many matches or bright hours at the elite level.

Experience in competing is also a dominant factor in an athlete bearing the label of a professional player. Experience is an event that has been experienced (lived, felt, borne, and so on) whether it has been a long time ago or has just

happened. Experience is defined as something that has been experienced (lived, felt, borne) (KBBI, 2005). Experience can also be interpreted as episodic memory, namely memory that receives and stores events that occur or are experienced by individuals at a certain time and place, which functions as an autobiographical reference (Daehler & Bukatko, 1985 in Syah, 2003).

Competition experience is an athlete's track record that can be used as a reference for them to act and make decisions in a competition. A lot of competition experience, both at the national and international regional levels can be a useful basic capital to become a professional. This is because the athlete has pocketed many situations, conditions so that he feels many psychological symptoms that can build him up positively in facing a competition to gain an experience that has an effect on performance.

It is understandable that this is what differentiates between professional and amateur tennis athletes. Training experience to competition experience is very vital in differentiating the two groups of athletes. So it is clear and empirically acceptable that the abilities and skills of elite athletes are better than those of amateur/novice athletes. Research conducted on children with an average age of 12 years revealed the performance of boys in this manipulative task significantly better than girls, based on this condition it is advisable to provide training or tasks to realize eye-hand and eye-foot coordination in childhood front, (Rui Matos et al., 2022)., (Bolger L. E et al, 2021). Based on the results of this study, as a junior tennis athlete, of course, it is necessary to carry out the suggestions emphasized by previous researchers. By providing manipulative exercises that function to build eye-hand and foot coordination is something that can be rationally accepted.

CONCLUSION

This study serves as an example of how male and female junior tennis athletes' biomotor talents differ from those of non-elite junior tennis players. The researchers anticipate being able to help coaches create training plans that will

enhance athletes' biomotor skills and enable them to perform at their very best in the future.

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