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DEVELOPING THE TEST OF GROUNDSTROKE SKILL IN TENNIS

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ABSTRACT

This study aimed to find out the level of validity and reliability of groundstroke skill test in tennis. This study was conducted to beginner and advanced tennis athletes in West Sumatera. The study population was all tennis athletes in West Sumatera. The sampling technique was random sampling technique in which the population was sampled by 34 respondents.

The data were collected through tennis groundstroke skill test. The retest of Hewitt tennis groundstroke test was performed by calculating the scores. The validity test of tennis groundstroke skill was sought by correlating the result of tennis groundstroke skill test to the result of Hewitt groundstroke test. Meanwhile, the reliability test of tennis groundstroke skill was sought by correlating the result of tennis groundstroke skill test to the result of retest of tennis groundstroke skill test.

Based on the analysis of data, for the group of advanced athletes, the level of validity of tennis groundstroke skill test was 0.86 which means good, while the level of reliability of tennis groundstroke skill test was 0.76 which means that it could be accepted. Then, for the group of beginner athletes, the level of validity of tennis groundstroke skill test was 0.30 which means low, while the level of reliability of tennis groundstroke skill test was 0.20 which means that it could not be accepted, so tennis groundstroke skill test was more suitable for the group of advanced tennis athletes.

Keywords: Validity and Reliability, Tennis Groundstroke Skill Test.

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1. INTRODUCTION

Lawn tennis is one of the sport branches competed in National Sports Week (Indonesian language: Pekan Olahraga Nasional, PON). It was officially competed for the first time in PON I in Solo, Central Java, 1938. The management of Indonesian Tennis Association (Indonesian language: Persatuan Lawn Tenis Indonesia, PELTI) hold various championship events every year, starting from regional championships, national championships to international championships. Considering the levels of competitions held, from regional level

to international level, it is concluded that the coaching of athletes starting from the early age must be a great concern in order to generate excellent athletes.

The development of lawn tennis in West Sumatera gets very much attention from society, especially those in Padang and other areas in West Sumatera that keep making improvement in the achievement of tennis athletes such as Solok, Pariaman, Bukittinggi, Sawahlunto, and Payakumbuh. The existence of tennis clubs in West Sumatera is expected to generate potential prospective athletes who can elevate the achievement of West Sumatera nationally and internationally. To achieve an achievement is indeed not easy because the achievement will be realized if there is cooperation amongst the government, the society, and the elements that support the coaching of the athletes.

Irawadi (2009:52) states that the abilities of basic techniques in tennis consist of service, forehand, backhand and volley. The ability of mastering basic techniques is a requirement to be able to carry out attacks and defenses. Syahrial Bachtiar, et al (2001:29) suggests that what is meant by technique is the process of creating physical activities that are performed in the form of movements to achieve something efficiently and effectively.

In lawn tennis, the technique most frequently used is groundstroke. Yudoprasetio (1981:55) mentions that every ball that bounces and is hit towards the right side, for right-handed players, is often called forehand. According to Brown (2007:32), forehand technique consists of preparation phase (backswing), implementation phase (forward swing), and follow-up movement (follow through).

The techniques above-mentioned are the techniques that are very important in tennis. Seen in the 7-minute video clip of 2015 Swiss Indoors Basel final between Rafael Nadal and Roger Federer, the techniques aforementioned dominated throughout the match. Groundstroke was the most frequently used. It was also one of Roger Federer's secret weapons in winning the match. From the source, at least half of all strokes carried out while playing tennis were groundstroke. For top players, this stroke was often used as a stroke for attacking.

Based on the description above, the most dominant basic technique which is important to be mastered by a tennis athlete is the ability in groundstroke. To be able to generate a reliable tennis athlete, he/she must have good groundstroke skill. Moreover, in order to know to what extent the athletes have skills in playing tennis, a test is needed. Unfortunately, the existing tests had not reflected the playing skills, meaning that they were not in accordance with the playing situation. In fact, the test should be conducted according to the playing situation so that the results of the athletes' skill test are more accurate.

2. METHODOLOGY

This study was descriptive research. This study attempted to describe and interpret objects according to what they are. This study sought to find out the validity and reliability of the development of Hewitt groundstroke test, tennis groundstroke skill test. Maksum (2012:107) explains that test is an instrument or device used to obtain information about individuals or objects. Then, Nurhasan (2001:12) states briefly that test is a measuring instrument. More specifically, Taufiquriza (2012) clarifies that sport skills test aims to measure a person's skills in a sport. The test will reveal the mastery of basic technical skills in a certain sport. Furthermore, Arsil (2010:111) infers that sport skills test is a test created to measure whether a person is skilled in a particular sport. For its classification, the test is differentiated based on the branches of sport and is classified according to age levels, grade levels, gender, and so forth.

This study was carried out on UNP tennis court for Padang athletes and other areas in West Sumatra such as Solok, Pariaman, Payakumbuh because these areas had the athletes who were actively training. This study had been conducted starting from July to October

2019. The test was adjusted to the tennis practice schedule of each club in the areas aforementioned.

3. RESULTS AND DISCUSSION

3.1. Norm

Based on the data processing, the norms of tennis groundstroke skill test were as follows:

Table 1. Norms of Tennis Groundstroke Skill Test

Norm	Category
< 30.50	Very Poor
30.6 – 42.5	Poor
42.6 – 54.6	Moderate
54.7 – 66.7	Good
> 66.8	Very Good

3.2. Group of Beginner Athletes

Based on the data processing carried out on the group of beginner athletes, it was found that the highest norm value achieved by the group of beginner athletes was 56 and the lowest value was 25. The overall average value achieved by the athletes was 40.89 which belonged to "moderate" category. Then, the standard deviation was 8.25. The data distribution of beginner athletes group is presented below.

Table 2. Data Frequency Distribution Group of Beginner Athletes

No.	Norm	Absolute Frequency	Relative Frequency	Category
1	< 30.50	5	17.24	Very Poor
2	30.6 – 42.5	11	37.93	Poor
3	42.6 – 54.6	12	41.38	Moderate
4	54.7 – 66.7	1	3.45	Good
5	> 66.8	-	-	Very Good
Total		29	100	

Based on the table of frequency distribution of beginner athletes group, out of 22 athletes there were 5 or 17.24% of the athletes who were in the interval class <30.50 with the category of "very poor". In the interval class 30.6 - 42.5, there were 11 or 37.93% of the athletes in "poor" category. Then in the interval class 42.6 - 54.6 there were 12 or 41.38% of the athletes in "moderate" category. Furthermore, in the interval class 54.7 - 66.7 there was 1 or 3.45% of the athletes in "good" category. Additionally, there were no athletes in “very good” category. For more details on the data of beginner athletes group, the researchers have made a histogram, as follows:

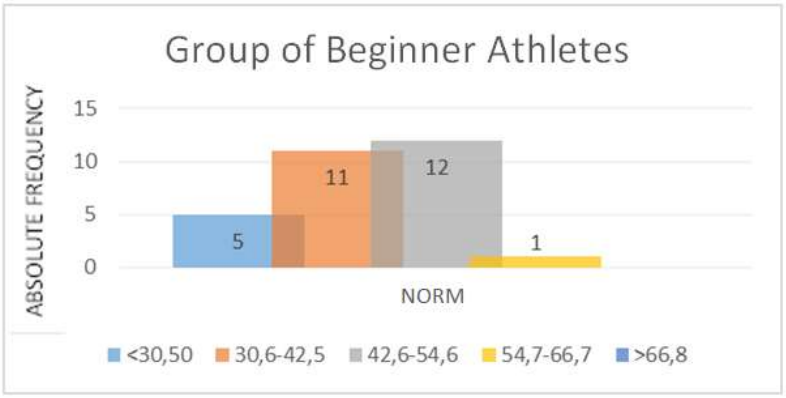

Figure 1. Histogram of Beginner Athletes Group

3.3. Group of Advanced Athletes

According to the data processing performed on the group of advanced athletes, it was revealed that the highest norm value that could be achieved by advanced athletes group was 74 and the lowest value achieved by the athletes was 40. The overall average value achieved by the athletes was 58.90 which belonged to "good" category. Then, the standard deviation was 7.78. The following is the data distribution of advanced athletes group:

Table 3. Data Frequency Distribution Group of Advanced Athletes

No.	Norm	Absolute Frequency	Relative Frequency	Category
1	< 30.50	-	0.00	Very Poor
2	30.6 – 42.5	1	4.55	Poor
3	42.6 – 54.6	6	27.27	Moderate
4	54.7 – 66.7	12	54.55	Good
5	> 66.8	3	13.64	Very Good
Total		22	100	

According to the table of frequency distribution of advanced athletes group, out of 22 athletes, none were in "very poor" category. In the interval class 30.6 - 42.5, there was 1 or 4.55% of the athletes in "poor" category. Then, in the interval class 42.6 - 54.6, there were 6 or 27.27% of the athletes in "moderate" category. Furthermore, in the interval class 54.7 - 66.7, there were 12 or 54.55% of the athletes in "good" category. In addition, in the interval class > 66.8, there were 3 or 13.64% of the athletes in "very good" category. For more details on the data of advanced athletes group, the researchers have made a histogram, as follows:

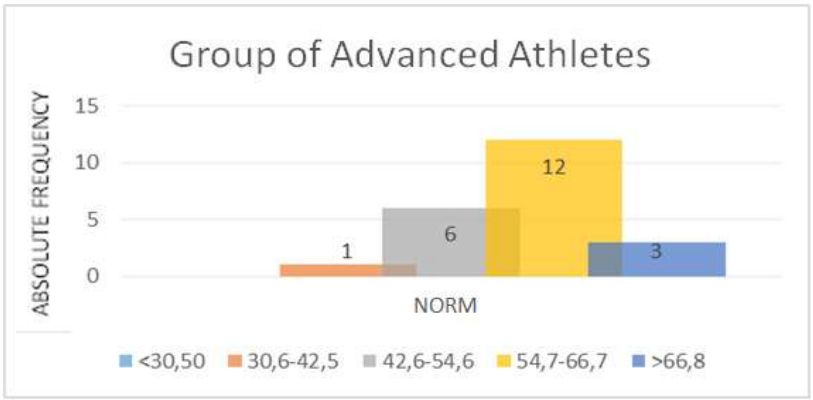

Figure 2. Histogram of Advanced Athletes Group

3.4. Validity and Reliability Tests of Tennis Groundstroke Skill on Beginner Group

Based on the data processing on beginner athletes group, the validity was 0.379 which means clearly correlated and the reliability was 0.305 which means worthless.

3.5. Validity and Reliability Tests of Tennis Groundstroke Skill on Advanced Group

Based on the data processing on advanced athletes group, the validity was 0.860 which means extraordinary and the reliability was 0.781 which means that it could be accepted.

From the above-elaborated data analysis, it can be said that tennis groundstroke skill is more suitable for athletes in advanced group, because this test is more directed to groundstroke skill in tennis. For this reason, further research will be conducted on a larger sample so that the accuracy of this test can be better.

4. CONCLUSIONS

Conclusions that can be drawn based on the results of data analysis in this study are as follows:

- In beginner athletes group, the validity of tennis groundstroke skill test was 0.379 and the reliability was 0.305, so the test can be used for beginner athletes group but cannot be maximized.
- In advanced athletes group, the validity of tennis groundstroke skill test was 0.860 and the reliability was 0.781, so the test can be used for advanced athletes group and is very suitable for measuring tennis groundstroke skill of advanced athletes group.
- Tennis groundstroke skill test is more suitable for advanced tennis group with the average of sample data was in "good" category.

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