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ANALYSIS OF THE PHYSICAL CONDITION SURVEY OF PRINTING ATHLETES SILAT AGE 14-17 PERGURUAN TUNAS NUSANTARA ALL OF ACEH

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Abstract

This research study aims to analyze the physical condition of the athletes aged 14-17 at the Tunas Nusantara College in Aceh Province. The method used is descriptive analysis of the research sample totaling 15 athletes, 9 male athletes and 6 female athletes. The instruments and data collection techniques used tests and measurements, namely in the form of a physical condition test using a 30-meter sprint, a balke test, depending on body lift (pull-up), depending on the woman's bending elbow, sit-ups and shuttle run tests. The results obtained: for the 30 meter sprit, the average classification of men was 3.87 (very good category) and women 4.59 (good category), male average classification test 56.86 (good category) female 59.14 (good category), pull up calcification male average 9

(poor category), female bending elbow 21.0 (moderate category), male average classification sit-up 44 (very good category) female 37.2 (very good category), shuttle run test average male classification 13 (good category) female 12.72 (good). The average classification of the physical condition ability of pencak silat athletes aged 14-17 years of Tunas Nusantara college in Aceh Province is in good category.

A. Introduction

Sports today are a medium for humans to gather, act and express themselves for each individual human being. Because in sports humans have the freedom to move individually and in groups, (Kramarski et al., 2002). By looking at the various types of major contributions today, people begin to understand and realize the meaning, function and benefits of sports, this can be seen from the government's appeal on "promoting sports and exercising society" , (Kramarski et al., 2002). Sport is a means that can make a nation proud and also determine the state of a political situation between nations, (Kramarski et al., 2002). Of the various sports that are being competed at this time to make the name of their respective regions proud. So the researcher wants to research about one of the most resilient and attractive martial arts sports, namely pencak silat, (Kramarski et al., 2002) (Kramarski et al., 2002).

In the field of sports to achieve high achievement, the existence of a good physical condition in an athlete is a requirement that cannot be ignored, besides that high physical fitness can improve the appearance or performance of the sportsman so that it can reduce the possibility of injury. According to (Kramarski et al., 2002) (Kramarski et al., 2002) physical condition is one of the indispensable requirements in every effort to increase the achievement of an athlete, it can even be said to be the foundation of sports achievement. This is because the physical condition factor plays an important role and is a basic component for the next training, if it is not supported by a prime physical condition, an athlete will not be able to exercise according to the portion, (Kramarski et al., 2002) (Kramarski et al., 2002)..

The Tunas Nusantara Pencak Silat College in Aceh Province is one of several Pencak silat colleges established since 19s68 which is still active today, since that year many pencak silat colleges in Aceh Province include: Teralak College, Burak Terbang, Naga Biru, Tapak Suci, which is currently the center for the development of Pencak silat athletes in Central Aceh Regency, this very long-established college, under the tutelage of Mr. Mahdi P. Gayo or who is familiarly called Cek Badi as a college professor, and Mr. Samsul, who is the manager as well as the coach and coach of Mr. Sahru, who always provides

the martial arts skills of Pencak Silat, (Kramarski et al., 2002) (Kramarski et al., 2002). The Tunas Nusantara Pencak Silat College every year always opens registration to re-accept students from elementary and high schools to be trained as athletes, because one of the goals of the Tunas Nusantara college is to create competent athletes so they can achieve good achievements at the regional level, national and international level, (Kramarski et al., 2002) (Kramarski et al., 2002).

An increase in the status of a person's physical condition can be seen after following a number of exercise programs. Exercises can be done alone or coordinated, such as the concentration of fostered athletes at one of the Tunas Nusantara colleges in Aceh Province. The existence of training is expected to increase achievement in accordance with the objectives themselves, because training is a sysstematic process of training or work that is done repeatedly with increasing numbers of workloads or work, (Kramarski et al., 2002) (Kramarski et al., 2002).

On the basis of the results of observations made at the Indonesian martial arts academy, Aceh Province, that the physical condition of the fighters when they did the exercises where the quality of their physical conditions was still not maximal, there were only a few athletes who did have a good volume of physical condition, especially when they were perform several movements in pencak silat such as when making movements for kicks, punches, dodging and blocking techniques. Due to the nature of the movement being carried out in pairs and continuously repeated, it is immediately apparent that the movements of some fighters are slowing down and their breathing patterns also look like they are very tired whether it is intentional or not, the researchers don't understand. This happened to several martial arts fighters / athletes of Tunas Nusantara, Aceh Province, (Kramarski et al., 2002). Therefore, in line with the problems as described above, it is necessary to feel interested in knowing the actual physical condition of the Tunas Nusantara athletes from Aceh Province, namely by conducting a study to conduct more in-depth research.

B. Method

Descriptive research design studies problems in society and the procedures that apply in society as well as certain situations including activities, attitudes, views and ongoing processes as well as the effects of phenomena. This study is to determine the existence of cause and effect through data collection and data processing based on the results of tests conducted, (Kramarski et al., 2002). Place and time of research.

This research was conducted in the Musara Alun Blang Kolak II field, Bebesen District, KONI Sports Building, Aceh Province, on October 29, 2020, these two objects are types of places that are often used as locations or places to carry out a number of sports activities and sporting events. The population is the entire sample to be studied, which becomes the population in this study are all athletes of Pencak Silat Perguruan Tunas Nusantara, Aceh Province, the student category is 115 people. The sample in this study was determined by purposive sampling, which is taking samples based on considerations that focus on specific objectives (Kramarski et al., 2002). The samples in this study were all Pencak Silat athletes at Tunas Nusantara College, Aceh Province, the category of students aged 14-17 who had been netted and designated as athletes and were really active fighters at Tunas Nusantara Central Aceh pencak silat college. The population is only 15 people, considering the population is less than 100, the entire population is used as a sample (total sasmpling).

To obtain the data in this study used sports test and measurement techniques, namely the measurement of physical fitness contained in (Kramarski et al., 2002) which states that "physical fitness is a physical aspect of overall freshness that gives a person the ability sto lead a productive life and can adjust to each proper physical loading without experiencing fatigue." That has been adjusted to the dominant physical condition and applies it to obtain data that has been embraced into several test items and norms as listed below:

- Implementation of the 30 Meter Sprint Running Speed Test
- Objective: To measure the component of speed
- Implementation

With the signal "ready" testy ready to run with a standing start, after the signal "yes" testy ran as fast as possible over a distance of 30 meters to cross the finish line. At the same time as the signal "yes" the start flag was raised. Running speed is calculated from the moment the flag is raised until the runner crosses the finish line. Running speed is recorded up to 0.1 second, if possible, up to 0.01 second. Perform the test run twice, after intermittent one runner up to the next / group of runners the best calculated. Testy is declared a failure, if the runner crosses or crosses to another track.

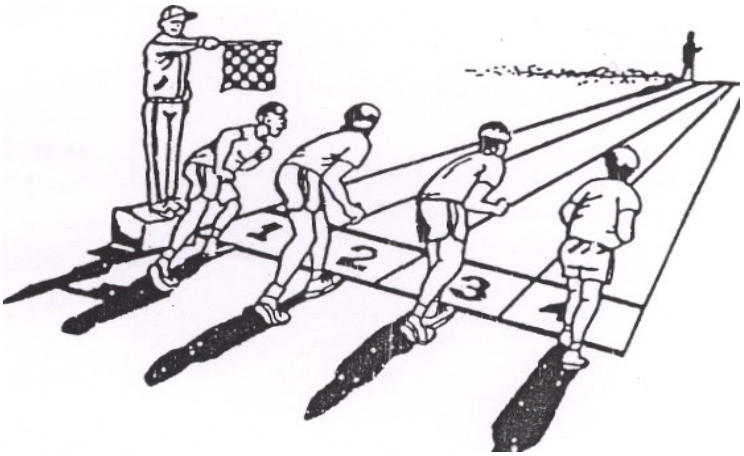

Figure 1. Running 30 meters

Table 1. Norms of Men and Women 30 Meter Running Speed Test

Norma Atlet		
Criteria	**Men**	**Women**
Very good	3.58 – 3.91	4.06 – 4.50
Good	3.92 – 4.34	4.51 – 4.96
Midle	4.35 – 4.72	4.97 – 5.40
Less	4.73 – 5.11	5.41 – 5.86
Very less	5.12 – 5.50	5.86– 6.30

Sources: (development sport of Jakarta. 2003: 11)

2.1. Formula equation

$$VO_2 \text{ Max} = \frac{(\text{x meter} \_ 133) \times 0{,}172 + 33.3}{15}$$

For example, a testy in a 15 minute run covers a distance of 3,800 meters.

$$VO2 \text{ Max} = \frac{(3800 - 133)}{15} \times 0{,}172 + 33{,}3$$

$$= (244.26) \times 0.172 + 33.3$$

$$= 244.26 + 33.47 = 277.73 \text{ ml/g/min}$$

Table 2. The norms Tes *Balke* Putra dan Putri

Norms of Athlet		
Criteria	**Men**	**Women**
Baik Sekali	61.00 – 65.90	59.30 – 54.30
Baik	60.90 – 55.10	54.20 – 49.30
Sedang	55.00 – 49.20	49.20 – 44.20
Kurang	49.10 – 43.30	44.10 – 39.20
Kurang Sekali	43.20 ⟶	39.10 ⟶

Sources: (development sport of Jakarta. 2003: 11)

C. Result

The data analysis in this study used the calculation of averages and percentages, namely categorizing the results that have been collected according to the norms.

Average Results and Percentage of Physical Condition Components Ability for calculating the average of the physical components using statistical data formulas as attached in the previous chapter. Furthermore, the average results are categorized by each test norm to get the final result. The average results are written in table form as follows:

Table 3. Results of Average Men's Sprint Speed 30 Meter

No	Names	Value	Criteria
1.	M.F	4.61	Moderate
2.	R.A	4.65	Moderate
3.	M.B.M	3.67	Good
4.	D.S.R	3.15	Very good
5.	M	3.38	Very good
6.	M.W	3.67	Good
7.	F.H	3.67	Good
8.	L.F	3.68	Good
9.	S.S	4.38	Moderate
	Means	3.87	Very good

$$\bar{X} = \frac{\sum x}{N} = \frac{3.15 + 3.38 + 3.67 + 3.67 + 3.67 + 3.68 + 4.61 + 4.38 + 4.65}{9}$$

$= 3.87$

Table 4. Results of Average women's Sprint Speed 30 Meter

No	Names	Value	Criteria
1.	L.F	4.61	Good
2.	M.S	4.51	Good
3.	M.F	4.55	Good
4.	N	4.56	Good
5.	R.B	4.51	Good
6.	M	4.77	Good
	Average	4.59	Good

$$\bar{X} = \frac{\sum x}{N} = \frac{4.51 + 4.51 + 4.55 + 4.56 + 4.61 + 4.77}{6}$$

$= 4.59$

Table 5. The result average of endurance (VO*2max*) *Balke Test* Mens

No	Names	Values	Criteria
1.	M.F	59.87	Good
2.	R.A	59.64	Good
3.	M.B.M	65.25	Good
4.	D.S.R	60.03	Good
5.	M	59.64	Good
6.	M.W	53.9	Good
7.	F.H	65.31	Very good
8.	L.F	53.9	Moderate
9.	S.S	34.21	Moderate
	Average	56.86	Good

$$\bar{X} = \frac{\sum x}{N} = \frac{53.9 + 53.9 + 34.21 + 65.31 + 59.64 + 59.64 + 59.87 + 60.03\ 65.25}{9}$$

$= 56.86$

Table 6. The result average of endurance (*VO2max*) *Balke Test* womens

No	Names	Value	Criteria
1.	L. F	60.83	Good
2.	M. S	53.96	Moderate
3.	M. F	60.89	Good
4.	N	59.66	Good
5.	R.B	65.25	Very good
6.	M	54.24	Moderate
	Average	59.14	Good

$$\bar{X} = \frac{\sum x}{N} = \frac{60.83 + 53.96 + 60.89 + 59.\ 66 + 65.25 + 54.24}{6}$$

$= 59.14$

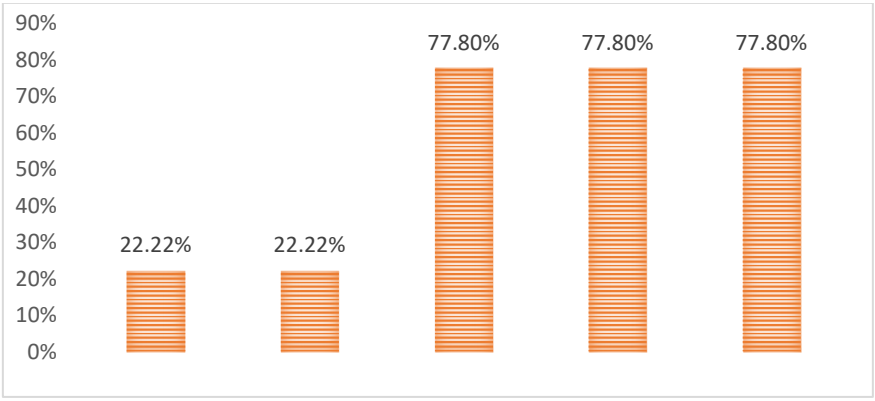

Figure 2. The percentage of every hight physical condition atlelet mens and womens

D. Conclusion

The physical condition of the athletes aged 14-17 at the Tunas Nusantara Institute, Aceh Province, as is done for male athletes and female athletes is good. With the average classification of each component of the ability to physical condition that has been adjusted to the respective norms on each test item, namely the results of the components of the ability of the physical condition speed of male athletes, the average classification is 3.87, and for female athletes it is 4.59. The components of the physical condition of the cardiac and respiratory endurance of the VO2max in the average classification of male athletes were 56.86 and for female athletes 59.14. Components of ability, physical condition, endurance, muscle strength, shoulder, hanging, body lifting, male and hanging elbow bending for women, the average classification is 9 for boys and 21.0 for girls. Components of the ability of the physical condition of the abdominal muscle's endurance with classification the average for male athletes is 44 and female athletes are 37.2. And on the component of the ability of the physical agility condition in male athletes with an average classification of 13 and 12.72 in female athletes.

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Bibliography

Alphen, H. J., Hortobágyi, T., & Heuvelen, M. J. (2016). Barriers, Motivators, and Facilitators of Physical Activity in Dementia Patients: A Systematic Review. *Archives of Gerontology and Geriatrics, 66*, 109-118. doi:10.1016/j.archger.2016.05.008

Arikunto, S. (2016). *Prosedur Penelitian: Suatu Pendekatan Praktik.* Jakarta: Rineka Cipta.

Asier, L., & Javier, M. (2018). Physical Fitness Performance of Young Professional Soccer Players Does Not Change During Several Training Seasons in a Spanish Elite Reserve Team: Club Study. *Journal of Strength and Conditioning Research, 32*(9), 1996–2013.

Etikan, I., Musa, S., & Alkassim. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics, 5*(1), 1-4.

Gale, S. A., Acar, D., & Daffner, K. R. (2018, October). Dementia. *Handbook of Clinical Neurology, 131*(10), 1161-1169. doi:10.1016/j.amjmed.2018.01.022

Hatzigeorgiadis, A., Galanis, E., Zourbanos, N., & Theodorakis, Y. (2014). Self-talk and Competitive Sport Performance. *Journal of Applied Sport Psychology, 26*(1), 82-95.

Kramarski, B., Mevarech, Z. R., & Arami, M. (v). The Effects of Metacognitive Instruction on Solving Mathematical Authentic Tasks. *Educational Studies in Mathematics, 49*(2), 225–250. doi:10.1023/A:1016282811724

Kurniawan, E., Kesoema, T., & Hendrianingtyas. (2019). Pengaruh Latihan Fleksi dan Ekstensi Lumbal Terhadap Fleksibilitas Lumbal pada Dewasa Muda. *Jurnal Kedokteran Diponegoro, 8*(1), 161-170.

Kusuma, I. D. (2018). The Improvement Result Learning Dribble Sepak Bola Melalui Model Pembelajaran Numbered Head Together (NHT) dan Media Audio Visual. *Jurnal Sportif, 4*(1), 73-86.

Meliala, E. K. (2018). Analysis Physic Condition Floorball Universitas Negeri Surabaya, UNESA. *Jurnal Kesehatan Olahraga, 3*(5), 19-24.

Park, T., & Kim, Y. (2016). Effects of Tongue Pressing Effortful Swallow in Older Healthy Individuals. *Archives of Gerontology and Geriatrics, 66*, 127-133. doi:10.1016/j.archger.2016.05.009

Pinheiro, P. A., Carneiro, J. A., Coqueiro, R. S., Pereira, R., & Fernandes, M. H. (2016). "Chair Stand Test" as Simple Tool For sarcopenia Screening in Elderly Women. *The Journal of Nutrition, Health & Aging, 20*(1), 56-59. doi:10.1007/s12603-016-0676-3

Sajoto, M. (1988). *Pembinaan Kondisi Fisik Dalam Olahraga.* Jakarta: DEPDIKBUD.

Scheltens, N. M., Tijms, B. M., Koene, T., Barkhof, F., Teunissen, C. E., Wolfsgruber, S., . . . Schelt, P. (2017). Cognitive Subtypes of Probable Alzheimer'S Disease Robustly Identified in Four Cohorts. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association, 13*(11), 1226-1236. doi:10.1016/j.jalz.2017.03.002