

# **Analysis of Dominant Physical Conditions and Speed of a Kayak Boat 200 Meters on Rowing Athletes**

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## **Abstract**

*This study aims to observe the dominant physical condition and speed of the 200-meter kayak rowing athlete PON Aceh in detail by outlining the relationship between each test item for further study. Sampling was carried out using a total sampling technique, namely the total number of rowing athletes from PON Aceh amounted to 8 athletes, including 4 male athletes and 4 female athletes. Data retrieval is done by testing physical conditions and travel time limits. The results of data analysis are as follows: (1) a 30-minute run test with an average score of 4.45 seconds for boys and 5.2 for girls. The highest score for male athletes is in the medium category with a percentage of 50% and for female athletes the highest score is in the medium category with a large percentage of 100%.*

**Keywords:** *Dominant Physical Condition, Speed, Rowing.*

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## **I. Introduction**

Sport is a powerful tool for the physical and mental formation of the nation, with frequent exercise , daily activities will also feel lighter when doing it. The target in carrying out an activity or activity is to achieve the highest satisfaction (Yudik Prasetyo, 2010:84). Sport is a powerful tool for the physical and mental formation of the nation, with frequent exercise , daily activities will also feel lighter when doing it. The target in carrying out an activity or activity is to achieve the highest satisfaction (Yudik Prasetyo, 2010:84).

According to Ajun Khamdani (2010:1-2), sport is a systematic process in the form of all activities or businesses that can encourage, develop, awaken, and foster the physical and spiritual potentials of a person as an individual or community group in the form of games, competitions, competitions, etc. and physical activities are intensified to acquire recreational and victory. Sport is a series of regular or systematic and planned exercise to maintain motion (which means to maintain life) and improve one's movement ability (which means to improve the quality of life). Just as eating is needed by every living being, exercise is a movement in need of life that nature constantly; meaning that sport as a tool to maintain and foster the health of one's life, cannot be abandoned (Giriwijoyo and Sidik, 2013).

### **A. Analytical Research**

Analysis comes from the Ancient Greek "analysis" which means to let go. The analysis is formed from two syllables, namely "ana" which means to return and "luein: which means to let go. According to Gregory (2014: 46) states that "Analysis is the initial part of an early stage of planning". Analysis according to the Dictionary of the Center for Language Development and Development (2016: 779) states that "People who analyze or analyze or people who seek, collect data for the assessment of a person's wealth or abilities".

**B. Components of Dominant Physical Condition in Rowing**

According to Sajoto, the dominant physical condition in rowing consists of strength, endurance, explosive power, speed, flexibility, balance, coordination, agility, accuracy and reaction (Sajoto, 1988: 57-59). Physical condition is a very important prerequisite. needed in an effort to improve the performance of dragon boat rowing athletes, it can be said as a basic need that cannot be postponed or negotiable besides the nutritional intake factor is also very influential.

**C. Understanding Rowing**

Rowing has been known since BC, but it wasn't until the 16th century that it was formalized as a form of sport. According to records, the Thames river in England often causes accidents because it is used as a means of traffic. Therefore, King Henry VIII issued a regulation, only rowers who have a permit to pass through the waters of the Thames. Since then, many people have wanted to appear to be good rowers. Then various competitions emerged to win the title of the best rower. Subsequently, this activity developed into a sport. Competitions began to mushroom. Around the century 19th, British students began to be interested in this sport, especially among Cambridge and Oxford who regularly held rowing competitions every year. Then came rowing associations around the world, such as Yale and Harvard in America.

**D. Basic Kayaking Techniques**

Safety in doing exercises on kayaks, swimming skills must be really mastered before athletes start using a kayak boat for the first time. In addition to the problem of balance, the first thing to learn is the movement / rotation of the paddle, the rotation of the paddle is done in the right and left directions.

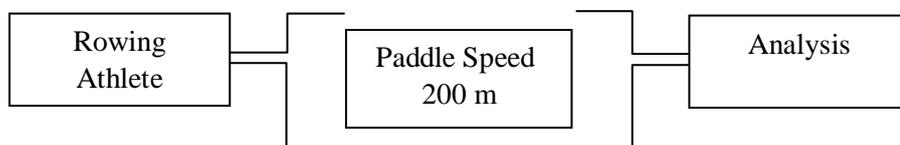
**III. Research Procedure**

The research method is the way or the path taken to achieve the research objectives is to reveal, describe and conclude the results of problem solving in a certain way in accordance with research procedures. In accordance with the aims and objectives of this study, namely to find out and analyze the speed or travel time obtained by Aceh PON athletes in 2020 which will be carried out in 2021.

The type of research used in this research is descriptive research with a quantitative approach, Sudjana (2009:26) suggests "Descriptive research is intended to raise facts, circumstances, phenomena that occur at the present time". While the approach used for research results is an evaluation approach as described by Arikunto (2010: 3) who states "Research is intended to investigate the circumstances, conditions, or other things that have been mentioned, the results of which are presented in the form of a research report.

Research design is a design to answer matters related to research. Arikunto (2006:41) explains: "a design made by researchers, as a square off activities to be carried out". In preparing the research design includes the following topics:

1. Determine the research method
2. Determining the population and research sample
3. Determine the research instrument
4. Collect data, and
5. Analyze according to its purpose and nature.
6. The research design can be described as follows:



The study was conducted in July 2021 by conducting direct research on PON Rowing Athletes

**IV. Research Result**

The research data obtained from the results of tests carried out on rowing athletes PON Aceh in 2020 is in the form of quantitative data. the data is tabulated into a table.

**Table 1.** Raw data on the results of the Aceh PON 2021 rowing athlete research in male athletes.

No	Name	Results					
		30 Meter Run (X <sub>1</sub> )	<i>grip Strength</i> Right (X <sub>2</sub> )	<i>grip Strength</i> Left (X <sub>3</sub> )	<i>Standing Board Jump</i> (X <sub>4</sub> )	Run 15 Minute (X <sub>5</sub> )	Paddle Speed 200 meters (Y)

1	ZF	4.6 seconds	58 kg	52 kg	2.16 meters	72.71 ml/kg/min	20.15 seconds
2	AU	4.2 seconds	66 kg	57 kg	2.10 meters	68.52 ml/kg/min	23.18 seconds
3	KM	4.6 seconds	49.7 kg	54.4 kg	1.96 meters	68.46 ml/kg/min	25.12 seconds
4	FT	4.4 seconds	42.1 kg	42.1 kg	2.10 meters	64.68 ml/kg/min	28.10 seconds
<b>Amount</b>		17.8 seconds	215.8 kg	205.5 kg	8.32 meters	274.37 ml/kg/min	96.55 seconds
<b>Average</b>		4.45 seconds	53.95 kg	51,375 kg	2.08 meters	68.59 ml/kg/min	24.13 seconds

Table 2. Raw data on the results of the Aceh PON 2021 rowing athlete research on female athletes.

No	Name	Results					
		30 Meter Run (X <sub>1</sub> )	grip Strength Right (X <sub>2</sub> )	grip Strength Left (X <sub>3</sub> )	Standing Board Jump (X <sub>4</sub> )	Run 15 Minute (X <sub>5</sub> )	Paddle Speed 200 meters (Y)
1	WY	5.1 seconds	35.5 kg	36.2 kg	1.80 meters	64.22 ml/kg/min	38.59 seconds
2	MR	5.3 seconds	33 kg	29 kg	1.64 meters	59.36 ml/kg/min	40.20 seconds
3	DF	5.2 seconds	27 kg	29.1 kg	1.81 meters	56.42 ml/kg/min	40.10 seconds
4	EL	5.2 seconds	29 kg	29 kg	1.67 meters	59.46 ml/kg/min	40.90 seconds
<b>Amount</b>		20.8 seconds	124.5 kg	123.3 kg	6.76 meters	239.46 ml/kg/min	159.79 seconds
<b>Average</b>		5.2 seconds	31.125 kg	30,825 kg	1.69 meters	59.86 ml/kg/min	39.94 seconds

## V. Conclusion

The average speed of Aceh PON rowing athletes uses a 30-minute run test item with an average score of 4.45 seconds for men and 5.2 for women. The highest score for male athletes is in the medium category with a percentage of 50% and for female athletes the highest score is in the medium category with a large percentage of 100%.

The average arm muscle strength value is 53.95 kg (right), 51.375 kg (left) for male and female athletes, 31.125 kg (right), 30.825 (left). For the percentage value, the following results were obtained: (1) on the grip strength test (right) for male athletes the highest score was in the very good category with a large percentage of 50% and women in the good category with a total percentage of 50% and (2) on the grip test strength (left) the highest score for male athletes is in the good category with a percentage of 50% and 75% for female athletes are in the good category

Leg muscle endurance using a standing boardjump test item, the average score for male athletes is 2.08 meters and female athletes are 1.69 meters. Male athletes are in the moderate category for both male and female athletes with a large percentage of 50% each.

Endurance running for 15 minutes for the average score for male athletes is 68.59 ml/kg/min and female athletes are 59.86 ml/kg/min. For male athletes, they are in the very good category with a large percentage of 100% and for female athletes, 100% are in the very good category.

Rowing speed of 200 meters for the best travel time for male athletes is 20.15 seconds and female athletes are 38.59 seconds.

## Bibliography

- [1]. Ajun Khamdani. 2010. Indonesian Traditional Sports. Singkawang: PT. Maraga Borneo Tarigas.
- [2]. Arikunto, S. 2010. Research Procedures, A Practical Approach. Revised Edition. Jakarta: Rineka Cipta.
- [3]. Sajoto. 1988. Development of Physical Conditions in Sports . Ministry of Education and Culture Directorate General of Higher Education Book Procurement Project at the Education Personnel Development Institute. Jakarta.
- [4]. Sudjana, Nana. 2005. Basic Process Teaching and Learning. Bandung: Sinar Baru Algensindo.

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