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RELATIONSHIP BETWEEN WEIGHT AND HEIGHT TO JUMP RESULTS IN EARLY AGE LONG JUMP ATHLETES FOSTERED BY PASI, ACEH BESAR REGENCY

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Abstract

Athletics is the oldest sport in the world. Athletics has 4 numbers, namely running, walking, jumping and throwing numbers. Jump numbers have elements of physical conditions that must be owned by athletes, such as height and weight. The long jump is a sport that combines speed, strength, flexibility, endurance and accuracy in an effort to get as far as possible. Speed and strong leg muscles are also related to weight and height, because in the long jump the legs get a big load in the jump. Against the background of people's assumptions which state that differences in a person's body posture or weight and height affect the jump results, this research was conducted. In this study, a correlational research design was used which aims to determine the tendency of the existence or absence of correlation between variables. This correlational research was conducted to find out how much strength the relationship between the variables to be studied was. With the research subjects 7 Early Long Jump Athletes fostered by Pasi Aceh Besar District, so that in this study there were two variables, namely the dependent variable and the independent variable. Assuming H0: there is no relationship between weight and height and with jumps. H1: there is a relationship between weight and height with jumps. The research instruments used were of two kinds, namely instruments and test instruments. The research conducted will produce data in the form of ratio data, then the collected data is analyzed through inferential statistics in the form of simple, multiple regression analysis, and correlation analysis techniques. Based on the results of data analysis carried out, three conclusions were obtained as follows. First, with the results of H0 being rejected and H1 being accepted, there is a negative relationship between body weight and the long jump, which means that the heavier the weight, the shorter the long jump. The magnitude of the effect of body weight on the jump is 0.486 or 48.6%. Second, because H0 is rejected and H1 is accepted, there is a relationship between height and jump. The magnitude of the effect of height on the jump is 0.743 or 74.3%. Third, Based on the calculation, the correlation between weight and height combined has a relationship with jumps. The magnitude of the relationship is 61.45%. The conclusion is

that for each sport it is necessary to pay attention to the body composition of the athlete in order to produce maximum results.

Keywords: *Weight, Height, Long Jump*

A. Introduction

Athletics is the oldest sport and has been practiced by humans since antiquity until now. If it is likened to the age of athletics as old as human age, that is, since humans were on earth, athletics has been carried out even though in practice at that time it was carried out in a very simple way. As for some of the movements contained in athletics, including walking, running, jumping and throwing, in principle the movements contained in these athletics have been carried out by humans in everyday life to fulfill their daily needs. According to Pornomo (2011:1) suggests that: "Athletics can also be interpreted as a competitive/competitive physical activity, including several separate numbers based on basic human movement abilities such as walking, running, jumping, and throwing.

The development of athletic sports, especially in the jumping number branch, which can be carried out through daily activities through formal sports is given as one of the subjects in schools, both elementary, junior high, high school, as well as certain institutions. As is the case in PASI - Aceh Besar District where in the institution there are Aceh Besar district athletes practicing, especially in athletics. And one of the athletic sports taught is the long jump number.

Jumping is a jumping movement using one foot to reach the distance as far as possible, the goal and purpose of the long jump is to reach the jump distance as far as possible from a landing site or jump tub. body.

In every sport, in coaching and training directed at achieving achievement, it must be based on mature physical preparation as an effort to support mastery of the techniques specified in the game. Therefore, the elements contained in sports games, namely: technical, physical, tactical and mental need to be considered when doing the long jump.

One of them is a technique that must be developed as a first step to support technical abilities, which require good physicality. According to Sajoto (1988: 57) says that: physical condition is an indispensable requirement in an effort to improve an athlete's achievement, it can even be said as a basic need for the starting point of an achievement sport. From the statement above, it can be concluded that physical

condition is a basic need that cannot be postponed or negotiable as an increase in athlete achievement.

While strength is one component of physical condition which is a prerequisite for every athlete to achieve peak performance without leaving other elements, namely speed, flexibility, agility, coordination and balance, strength concerns the athlete's ability to use his muscles, while muscle strength is a component of physical condition. which can be increased to the maximum extent according to the needs of the sport (Sajoto, 2003: 57-58). From this it is clear, to get optimal results in the long jump there are several factors that influence including speed and strength, in addition to mastering the long jump technique itself.

Based on the background of the problems that have been stated above, the author intends to conduct research on the relationship between weight and height on the results of the jump in early childhood long jump athletes fostered by Pasi, Aceh Besar district.

B. Method

This study uses a quantitative approach with the type of correlation method (correlation research), which is the purpose of this study to determine the contribution of body weight and height in the long jump. Umar (2008:15) Describes that correlation is a study designed to determine the level of relationship between different variables in a population and aims to determine how big the relationship between the independent variable and the dependent variable is through conventional determination.

Based on the existing subject observation data, then a research was conducted to find the factors that caused it through data collection. However, before that, a research design or design had to be made to facilitate the implementation of measurements. In this case, field measurements. According to Arikunto (2010:41) that research design or research design is a design made by researchers, as a pre-emptive activity carried out. So the design carried out in this study concerns the results of collecting and analyzing research data.

C. Finding and Discussion

The research results presented are the results of the analysis that has been carried out on the data from each variable. To obtain an overview of the distribution of data including the highest value, lowest value, average value, standard deviation value,

relative frequency distribution and bar charts of each variable X1, X2 and Y, descriptive research data were made.

The data collected in this study consisted of weight, height and long jump results. The data obtained from each of these variables were then grouped and analyzed statistically, as a whole, they are presented as follows:

Table 1. Description of Weight and Height Test Results Data With Long Jump Results

No	Result	Variabel		
		Weight	Height	Jump Results
1	Average	45,9	1,53	4
2	SD	6,56	0,22	0,57
3	Min	33	1,45	3,15
4	Max	54	1,6	4,7

Source: 2022 research results

The description of the data is used to describe the variables studied at a glance, which includes the average/mean, standard deviation, minimum score and maximum score of the students. The following is a description of the research results of each variable, which can be seen in the bar chart below:

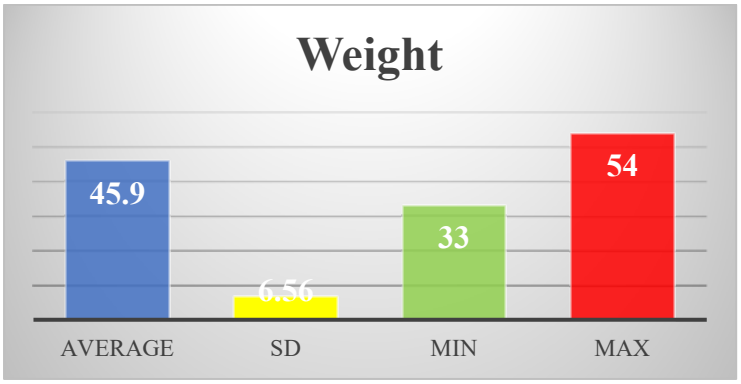

Figure 4.1 Bar Chart of Weight Measurement Results

Based on the bar chart above, it can be concluded that the results of the weight data, namely the maximum size is 54 Kg, the minimum result is 33 Kg, the standard deviation is 6.56, the mean (average) is 45 Kg.

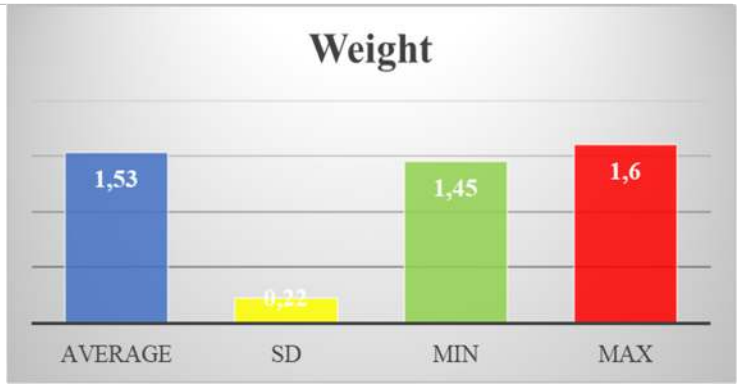

Figure 4.2 Bar Diagram of Height Measurement Results

Based on the bar chart above, it can be concluded that the results of the height data, namely the maximum value is 1.6 meters, the minimum value is 1.45 meters, the result of the standard deviation is 0.22, the mean (average) is 1, 53 meters.

Figure 4.3 Bar Chart of Long Jump Measurement Results

Based on the bar chart above, it can be concluded that the results of the long jump data are the maximum value is 4.7 meters, the minimum is 3.15 meters, the result of the standard deviation is 0.57, the mean (average) is 4 meters.

Based on the results of the research conducted, it was found that the results of research and data analysis explained that there was a significant relationship between body weight and long jump results in Early Age Long Jump athletes fostered by PASI Aceh Besar District. This implies that, if the athlete has a good ideal/light weight value, it will be followed by a good long jump result.

And vice versa if the athlete has a weight value that is above normal/obese then it is followed by a low long jump result. In doing the long jump, body weight has a very important role in the success of the jump. Body weight will give maximum results for the

jump, because the ideal body weight will allow someone with a long jump. So it can be concluded that body weight has an important role in supporting the long jump results.

Based on the results of the research conducted, it was found that the results of research and data analysis explained that there was a significant relationship between height and long jump results in early age long jump athletes fostered by PASI Aceh Besar District. This implies that, if the athlete has a good ideal height value, it is followed by a good long jump result.

D. Conclusions

Based on the results of the study and the results of data analysis, regarding the relationship between weight and height with the long jump results in the Early Age long jump athletes fostered by PASI Aceh Besar District which has been carried out, it can be concluded that:

1. There is a significant relationship between body weight and long jump results in the Early Age long jump athletes fostered by PASI Aceh Besar District.
2. There is a significant relationship between height and long jump results in the Early Age long jump athletes fostered by PASI Aceh Besar District.
3. There is a significant relationship between body weight and height with long jump results in the Early Age long jump athletes fostered by PASI Aceh Besar District

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