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The Effect of Circuit Training on Football Dribbling Skills (Experimental Study on the Student Football Activity Unit at One of the Universities)

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Abstract

Football is a team sport in which players kick the ball back and forth while attempting to place the ball in the opponent's goal as soon as they can. Dribbling is a necessary football movement. The circuit training training model is one of the workouts used in an effort to increase dribbling accuracy. The aim of this research is to ascertain how UMS football UKM players' dribbling abilities are affected by training using the circuit training approach. The paired sample t-test analysis is the technique employed. The study's findings demonstrate the impact of circuit training activities on football players' dribbling abilities at the University of Muhammadiyah Surakarta's Football Student Activity Unit. The 2-tailed significance value, which displays a figure of 0.013 < 0.05 and indicates a significant difference between the pre- and post-test, provides evidence for this claim. Alternatively, based on the mean value, which is calculated by subtracting the exercise's value (13.4715) from the mean value (15.3260) prior to the circuit training session.Alternatively, based on the mean value, which is calculated by subtracting the exercise's value (13.4715) from the mean value (15.3260) prior to the circuit training session.

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INTRODUCTION

In modern life, a person cannot be separated from sports activities as a forum for education, health, recreation, or achievement (Jusrianto, 2020). Doing physical activity requires exercise motivation, because doing physical activity is easier and more practical (Jariono & Subekti, 2020). Football players kick the ball back and forth to each other in order to score as many goals as they can while keeping the opposition's goal as silent as possible. The game of football is a game in the form of a squad, each squad contains 11 core players with one person as a goalkeeper and several reserve players, according (M Liansyah & Perdima, 2023). In addition, Football is a physically and psychologically demanding game in which players must execute deft moves under constrained circumstances. (Azidman, 2017). Dribbling in football is not only interpreted as the ability to pass the opponent, control the ball and then carry the ball and protect the ball from the opponent is also called dribbling. Dribbling is used to pass opponents, find space to pass to teammates, and to hold the ball in order to stay in possession (Wicaksono et al., 2021). Dribbling is one of the basic skills that is often used in football. Exercises that are commonly used to improve one's skills are shuttle run and zig-zag run. Agility is one of the important elements of the body's bimotor components that play a role in sports. Basically, in sports it is necessary to exercise, training itself is a process of developing the potential of athletes, especially skills and abilities that are acquired and applied systematically in a certain time (Dreiskaemper, D., Strauss, B., Hagemann, N., & Büsch, 2013). To improve sports achievement requires consideration of several aspects that the system practices in physical education, namely physical, technical, tactical, and psychological aspects. These four aspects must be trained systematically and planned based on the principles of education that have been studied for effectiveness (Insan et al., 2022). One of the necessary exercises is technical training is the exercise that athletes use to improve the movement techniques required in their sport (Festiawan et al., 2020). According to (Saryono & Nopembri, 2013) the Strategy approach is a teaching approach method that encourages the development of tactical understanding and skill development that facilitates the game, understanding, and fun of the players. In addition, it is also necessary that mental exercise is a very important part of almost all sports. For psychological development, very important attention must be paid to psychological readiness, psychological development and maintenance. This cannot be done in isolation, so the balance between technical and mental training is in line with the training program (Mardhika & Dimyati, 2015). Circuit training is a training program that has been combined from several training items whose goal in doing an exercise will not be boring and more efficient (Sapta et al., 2017). Fitness training is the process of developing the ability to perform physical activities that are carried out systematically and gradually to maintain or improve physical fitness to achieve optimal physical performance (Agus, 2012).

(Basrizal et al., 2020) stated that "dribbling movements consist of several movements, namely the movement to change direction, and the movement to protect the ball supported by biomotor components, including agility and coordination. Based on observations in the field, participants in the Student Activity Unit (UKM) of the University of Muhammadiyah Surakarta (UMS) football or better known as the University of Muhammadiyah Surakarta Football Association (PS UMS) have agility skills

that are at a low level. The football UKM of the University of Muhammadiyah Surakarta is located at Campus 2 of the University of Muhammadiyah Surakarta. The condition of SME players in terms of dribbling still looks lacking. Pupils still struggle with dribbling during play, which makes it easy for opponents to seize the ball.

The objective is to ascertain how the circuit training approach affects the dribbling abilities of the University of Muhammadiyah Surakarta student football activity unit players.

METHODS

Using experimental techniques, this study employs quantitative research methodology. Arikunto (Manik & Tarigan, 2022), states that experimentation is a means by which researchers can ascertain a causal relationship (causal relationship) between two factors that they have purposefully produced by removing or minimizing other interfering factors. This study's research methodology is one that makes use of experimental techniques. Where in the research carried out, a sampling method was used using the purposive sampling method. This study employed a single group pretest-posttest research design. claims that a single group Pre-testing (testing prior to treatment) and post-testing (testing following treatment) are conducted in one group as part of a pretest-posttest pre-experimental design. (Sugiyono, 2018). The benefit of this strategy is that pre- and post-tests are conducted to confirm any differences in results resulting from the treatment, (Nerwi Aditya & Faruk, 2019). According to (Sudarsono, 2015) changes in training will be seen after 6 weeks of training. Variables used Independent variables are variables whose factors are measured to find out their relationship with all the symptoms observed. The circuit training exercise model is the independent variable in this study. Furthermore, variables that are affected or brought about by the presence of independent factors are known as dependent variables. Dribbling skills were the study's bound variable. According to (Sumiharyati & Arikunto, 2019) said that information is the end product of data processing that is employed for a certain purpose, whereas data is all facts and statistics that can be used as raw material to create information. A dribbling skill test is used in this study as the data collection method. In this study, students dribbled in a zigzag pattern at a set distance of five meters per minute to collect data for the pre- and post-tests.

In order to address the research objectives, the collected data will thereafter be subjected to the data analysis method, which employs the paired sample t-test statistical analysis and the normality test method. Data analysis was done with the help of. The statistical package for the social sciences, or SPSS 25, is used. The data is normally distributed when a significant value (sig) is obtained. The test data is not normal if the calculation value is less than 0.05, and it is larger than 0.05 otherwise. Because there were fewer than 50 samples in this investigation, the Shapiro-Wilk test was employed. (Sujarweni, V. W., & Utami, 2019)

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Sampling Procedures

According to Sugiyono (Karyawati et al., 2023) claimed that a population is a generic region made up of items or individuals with specific qualities and attributes that the researcher has chosen to be researched and from which inferences are made. The participants in this study are all University of Muhammadiyah Surakarta football UKM players. According to Widodo (Ilahi et al., 2021) a sample is "a subgroup or part of a population." Although the sample is only a part of the population, the facts obtained

from the sample must describe the population. In this study, the sample is the football UKM players of the University of Muhammadiyah Surakarta. Twenty players in total, selected through the use of purposive sampling When writing your paper, you must inform the reader of the tools and resources you employed, such as data recording equipment and surgical instruments, as well as surveys and stimulus words. Generally speaking, you just need to mention your materials and apparatus if you know that the researchers will be familiar with them. However, you ought to include a very thorough description of your original materials if you made them. You should describe any relatively unknown materials or equipment that was made by others and let the reader know where to find them if you plan to use them. Indicate the reliability ratings reported by earlier researchers if you employed personality inventory or questionnaires.

RESULT

According to (Febriatmoko et al., 2013) said that all facts and numbers that can be employed as material are considered data. As stated by (Saputra et al., 2019) in (Development, 2018). Tools that researchers choose and employ during data collecting in order to organize and streamline activities are known as research instruments. Based on the outcomes of the data analysis, the following table can be used to describe the data:

Table 1. Intensity Scale

No.	Percentage of maximum ability	Intensitas
1	30% - 50%	Low
2	50% - 70%	Intermediate
3	70% - 80%	Medium
4	80% - 90%	Sub max
5	90% - 100%	Max
6	100% - 105%	Super max

Table 1 shows that in this study the benchmark is used as in the table. In the research carried out, a benchmark was used on the strength, speed of a dribbling carried out by athletes. So that to categorize how much the student's ability to dribble can be used in the table above. From the results of the analysis that has been carried out, the following results are obtained:

Table 2. Description of pre-test and post-test dribbling statistics

Variabel	Tes	N	Max	Min	Mean
Pre-test	Pre	20	22.03	12.45	15.326
Post-test	Post	20	19.95	1.29	13.4715

Data source: results of primary data analysis 2024

The dribbling ability level at the time of the pre-test was 15,326 on average, with the maximum score of 22.03 and the lowest score of 12.45, according to the data in the table above. Meanwhile, the level of dribbling ability during the Post-Test of the experimental group was a mean score of 13.4715, a maximum score of 19.95, and a minimum score of 1.29. Before the analysis, the data was tested for the distribution of normality from the initial test data of football dribbling. The Kolmogorov-Smirnov test must be used to perform a normalcy test first. By comparing the Asymp. Sig. values with 0.05, the test will determine whether to accept or reject the hypothesis based on a sample drawn from a normally distributed population. If Asymp. Sig. is larger than 0.05, the criteria accept the hypothesis; if it does not, the hypothesis is abnormal or rejected.

Table 3. Normality test table

One-Sample Kolmogorov-Smirnov Test	Unstandardized Residual
N	20
Std. Deviation	0.20335
Test Statistic	0.126
Astmp. Sig. (2-tailed)	0.200[c,d]

Data source: results of primary data analysis 2024

According to the normality test's conditions, which state that if Asymp. Sig. is greater than 0.05, the hypothesis is accepted; if it does not meet these criteria, the hypothesis is abnormal or rejected, it is evident from the above table that the value of Astmp. Sig. (2-tailed) is greater than 0.05, indicating that the variable used is a normally distributed variable. The paired sample t-test is statistically analyzed in this test. The purpose of the data analysis was to determine whether the Circuit Training model had an impact on the dribbling abilities of the University of Muhammadiyah Surakarta Football Student Activity Unit. to ascertain whether there is a dribbling effect both prior to and during Circuit Training sessions. Thus, the Paired Sample t-Test, which is shown in the following table, must be performed:

Table 4. Statistical analysis of paired sample t-test

No.	Variabel	N	Mean	Sig (2-tailed)	Conclusion
1	Pre-Test	20	15, 3260	0,013	Signifikan
2	Post-Test	20	13,4715		

Data source: primary data analysis 2024

The statistical analysis of the paired samples t-test from the pre-test and post-test reveals that the 2-tailed significance value is 0.013, which indicates that the number is less than 0.05 and indicates a significant difference between the pre-test and post-test. So it can be concluded that exercises carried out such as circuit training can have an influence on dribbling results. The resulting difference can be seen through the mean table, namely when before doing circuit training exercises has a value of 15.3260 and after doing the exercises the difference is obtained to 13.4715.

CONCLUSION

The evaluation results for football players from the University of Muhammadiyah Surakarta's Football Student Activity Unit were derived via data analysis and discussion outcomes, and they were collected both before and after doing circuit training. Therefore, a conclusion was obtained based on the analysis, namely circuit training exercises have an influence on the dribbling skills of football athletes in the Football Student Activity Unit of the University of Muhammadiyah Surakarta. Based on the results of the pre- and post-tests, it is demonstrated that there is a significant difference between the two tests. The statistical analysis of the paired samples t-test from the pre- and post-tests reveals that the significance value of the 2-tailed shows a number of 0.013 where the number indicates that it is smaller than 0.05. Alternatively, based on the mean value, which is achieved when the value is 15.3260 prior to performing circuit training activities and 13.4715 afterward,

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