Journal of Social Work and Science Education
Volume 4 (3)(Special Issue) 23-24 June 2023, 335-341
2nd International Conference on Education Universitas PGRI Palembang (INCoEPP 2023)
E-ISSN 2723-6919, P-ISSN 2746-0827

The Effect of Limb Explosive Power and Wrist Flexion on The Lay-up Shoot Ability of Extracurricular Basketball

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Abstract: The purpose of this study was to analyze the effect of limb explosive power and wrist flexion on the lay-up shoot ability of extracurricular basketball students of SMA Negeri 4 OKU. This research is a type of Ex Post Facto research that uses a path analysis research design. The population is all basketball extracurricular students of SMA Negeri 4 OKU with a sample of 30 students. The sampling technique is a saturated sample or total population. The data analysis techniques used are quantitative descriptive analysis, requirements tests, and path analysis through the SPSS 20.00 program at a significant level of 95% or α 0.05. The results showed that; (1) There is a direct effect of limb explosive power on wrist flexion in extracurricular basketball students of SMA Negeri 4 OKU with a beta value of 0.603 with a significant level of 0.000 < α0.05; (2) There is a direct influence of limb explosive power on the ability to lay-up the shoot in extracurricular basketball students of SMA Negeri 4 OKU with a beta value of 0.380 with a significant level of 0.002<α0.05 (4) There is a direct effect of wrist flexion on the ability to lay-up the shoot in extracurricular basketball students of SMA Negeri 4 OKU with a beta value of 0.337 with a significant level of 0.004 <α0,05; (6) There is no effect of limb explosive power through wrist flexion on lay-up shoot ability in extracurricular basketball students of SMA Negeri 4 OKU with a beta value of 0.203 (0.203 < 0.380).

Keywords: Lay-up Shoot Ability, Limb Explosive Power, Wrist Flex

A. Introduction

Sports achievements have shown rapid progress, especially in recent years. The achievements of a few years ago were hard to imagine, but now they can happen. Several athletes can provide optimal performance in certain sports. Sport as one of the models of human work, is a form of physical activity that has very complex dimensions. The relationship between sports activities and human existence is something that cannot be separated. Sport is motion and motion is human nature. The importance of physical condition for athletes while competing, both theoretically and empirically, is undeniable. Physical condition is the basic foundation for athletes to make movements in their physical activities (Manullang, 2022). Meanwhile, according to Imansyah, 2018), sports achievement is determined by several factors, including (1)

strength or strength, (2) speed or speed, (3) endurance or endurance, (4) muscular power, (5) flexibility, (6) coordination or coordination, (7) agility, (8) balance or balance, (9) accuracy or accuracy, and (10) reaction or reaction.

Extracurricular is an educational activity carried out by students as an extension of curriculum activities (Bartkus, et al., 2012) and is carried out under school guidance to develop the personality, talents, interests, and abilities of students that are broader or beyond the interests developed by the curriculum. The objectives of the implementation of extracurricular activities are; (1) Extracurricular activities must be able to improve the cognitive, affective, and psychomotor abilities of students, (2) Extracurricular activities must be able to develop the talents and interests of students in personal coaching efforts towards full human development. Seeing so many benefits of extracurricular activities for the development of students' talents and interests, it is expected that each educational unit will carry out these activities. Each education unit must create programs and guidelines for extracurricular activities that apply to the educational unit (Haensly, et al., 1985).

Based on observations so far, it can be stated that basketball extracurricular students of SMA Negeri 4 OKU still have many shortcomings in terms of basic basketball playing techniques that cause defeat during matches. The basic technique that has many mistakes when competing is the basic shooting technique, especially the lay-up shoot. These basic techniques often make mistakes starting from body position and also when making steps before shooting. To be able to lay-up shoot perfectly, of course, it takes the ability of physical components that can support the improvement of lay-up shoot ability, like; agility, balance, coordination, flexibility, reaction, and so on. From the various physical components above, in this paper, the author wants to try to examine two physical components, namely the explosive power of the legs and the flexibility of the wrist which is expected to have an influence and contribution to improving the ability to lay-up the shoot in basketball games.

The explosive power of the limbs is one of the physical components needed by basketball players. Without the explosive power of the limbs, a player's jump will not be optimal. With a high jump, a player will make it easier to put the ball into the opponent's ring because it will be closer to the hoop. However, if the player has good limb explosive power, the player will easily lay-up the shot.

Wrist flexion is one element that can improve the ability to lay-up and shoot in basketball games (Candra, 2018; Jaya et. al., 2023). Finch is the limit of the maximum possible range of motion in one joint. Flexibility is useful for motion efficiency in carrying out motion activities and preventing the possibility of injury. This ability is required by all players, flexibility is the ability of various joints in the body to move as widely as possible. It can also be interpreted that flexibility is the area of movement

of one joint and can also be interpreted that flexibility is the capacity to move in the pouring motion of the joint. The motor flexibility component is one of the important elements in the context of coaching sports, because the level of quality of one's flexibility will affect other biometer components. With good high explosive power and wrist flexion, players will find it easier to lay-up shoot because with maximum flexibility it will increase thrust when shooting and it is also easy to find out the amount of power needed when pushing the basketball.

Based on the explanation above, researchers hope that this research can later improve the basic techniques of extracurricular basketball students of SMA Negeri 4 OKU. Based on these expectations and facts, in this study, researchers will discuss, the effect of limb explosive power and wrist flexion on the lay-up shoot ability of extracurricular basketball students of SMA Negeri 4 OKU.

B. Methods

This research was conducted at SMA Negeri 4 OKU located in East Baturaja District, Ogan Komering Ulu Regency, South Sumatra Province. The type of research carried out is Ex Post Facto. According to Sudaryono, et al., (2013) said that Ex Post Facto Research is a type of research where researchers investigate problems by studying or reviewing variables. Related variables in studies like this can soon be observed and the main problem of the next researcher is to find the cause that causes these effects. Sugiyono (2015) said that population is a generalization consisting of objects/subjects/subject stain qualities and characteristics determined by researchers to be studied and then concluded. The population referred to in this study is all students who take extracurricular activities at SMA Negeri 4 OKU with a total of 30 students. According to Darmadi (2013) said that the sample is a portion of the population that is used as an object/subject of research. While Sugiyono (2015) samples are part of the number and characteristics possessed by the population. So, it can be concluded that the sample is part of individuals obtained from the population, which is expected to be representative of the entire population.

The sampling technique used in this study was a saturated sample or total population. So, the sample in question is students who take extracurricular activities at SMA Negeri 4 OKU with a total of 30 students. Data collection techniques are carried out using tests. Research instruments are tools or facilities used by researchers in collecting data so that their work is easier and the results are better, in the sense that they are more careful, complete, and systematic so that they are easier to process. Data collection is carried out to obtain empirical data as material to test the correctness of the hypothesis. The data collected in this study included limb explosive power tests, balance tests, wrist flex tests, and lay-up shoot ability tests.

The research design or research design used in this study is the Path Analysis research design (Path Analysis). Then it is necessary to test the requirements of the analysis. The test requirements in question include (1) normality tests using the Lilliefors test; and (2) Linearity tests using regression.

C. Results and Discussion

The criterion for stating whether the data from the sample used is normally distributed or not can be done by comparing the Sig. coefficient or P value with 0.05 (Significant level). If the P value is greater than 0.05 (significance level) which means it is not significant, then it means that the data comes from a normally distributed population. Conversely, if the P-Value is less than 0.05 which means significant, then it means that the data comes from an abnormally distributed population.

Based on the results of the regression coefficient analysis of the variables of limb explosive power and wrist flexion on basketball lay-up shoot ability. Furthermore, hypothesis testing needs to be studied further by providing an interpretation between the results of the analysis achieved and the theory underlying the writing. This explanation is needed so that the suitability of the theory with the results of the research is achieved.

Based on the results of the hypothesis test conducted, the significant value obtained is 0.000 because the significant value is smaller than 0.05 (0.000<0.05) then the proposed hypothesis is accepted or H0 is rejected and H1 is accepted. So, it can be concluded that there is a direct influence of limb explosive power on the wrist flexion of students who take extracurricular activities at SMA Negeri 4 OKU (Candra et al., 2017; Candra, 2018; Jaya et al., 2023).

Based on the results of the hypothesis test conducted, the significant value obtained is 0.002 because the significant value is smaller than 0.05 (0.002<0.05) then the proposed hypothesis is accepted or H0 is rejected and H1 is accepted. So, it can be concluded that there is a direct influence of limb explosive power on the lay-up shot ability of students who take extracurricular activities at SMA Negeri 4 OKU (Saputra et. al., 2023).

Based on the results of the hypothesis test conducted, the significant value obtained is 0.004 because the significant value is smaller than 0.05 (0.004<0.05) then the proposed hypothesis is accepted or Ho is rejected and H1 is accepted. So, it can be concluded that there is a direct influence of wrist flexion on the lay-up shoot ability of students who take extracurricular activities at SMA Negeri 4 OKU (Cavedon et al., 2015).

Based on the results of the hypothesis test conducted, the significant value obtained is 0.203 because the significant value is smaller than 0.380 (0.203 < 0.380) then the proposed hypothesis is accepted or Ho is rejected and H1 is accepted. So, it can be concluded that there is no effect of limb explosiveness through wrist flexion on the ability to lay-up the shot in extracurricular basketball students of SMA Negeri 4 OKU.

Based on the results of the hypothesis test conducted, the value of the beta coefficient obtained is 0.203. Because the value of the beta coefficient obtained is smaller than the beta coefficient, the direct effect of the explosive power of the limbs on the lay-up shoot ability is 0.380 (0.203<0.380), the proposed hypothesis is rejected or Ho is accepted and H1 is rejected. This means that the ability to lay-up and shoot in basketball games that are affected by the explosive power of the limbs will not increase if it is also affected by the flexion of the wrist. If connected based on the third hypothesis where there is a direct influence of the explosive power of the limbs on the ability to lay-up the shot in the game of basketball. Whereas if it is also influenced by wrist flexion, then with the influence of wrist flexion it can be said that it has no potential to improve the ability to lay-up and shoot the game of basketball. As it is known that the explosive power of the limbs is a person's ability to combine strength and maximum speed in jumping. Thus, there is no effect of limb explosiveness through wrist flexion on the lay-up shoot ability of students who take extracurricular activities at SMA Negeri 4 OKU (Candra, 2018; Candra et al., 2017; Jaya et al., 2023; Sahabuddin, 2023).

D. Conclusion

From the results of hypothesis testing and discussion of research results, the following conclusions can be drawn:

1. Explosive power is a physical component that is very closely related to someone who often uses his muscles to perform sports activities, as well as in badminton. So, if someone has good limb explosive power, it can encourage someone in the motor activity stage, thus contributing to individuals is the ability to perform various motor skills, especially in laying Up Shoot in basketball games. This means that to be able to lay-up Shoot in a basketball game must be supported by the explosive power of the limbs and a good one as well. Based on this description, it can be concluded that there is a significant direct influence of limb explosive power on the wrist flexion of students who take extracurricular activities at SMA Negeri 4 OKU;
2. As is known, the explosive power of the limbs is an important part of almost all sports, such as basketball, because the element of the explosive power of the limbs indicates a quality that allows a segment to move as much as possible according to the possibility of movement. In basketball games, especially Lay-up Shoot, Lay-up Shoot skills are needed, especially when making movements to enter the ball

into the hoop. Without the support of good limb explosive power, it is impossible for the athlete not to be able to produce a good Lay-up Shoot. Based on this description, it can be concluded that there is a significant influence of the explosive power of the limbs on the ability of Lay-up Shoot students who take extracurricular activities at SMA Negeri 4 OKU.

3. As is known, wrist flexion is a physical component that is very closely related to someone who often uses his arm muscles to do activities or receive loads, as well as in basketball games, especially in doing Lay-up Shoots. Without the support of a good wrist known UK, athletes can't be able to produce a good and precise lay-up or shooting. Based on this description, it can be concluded that there is a direct influence of wrist flexion on the lay-up shoot ability of students who take extracurricular activities at SMA Negeri 4 OKU.
4. As is known, limb explosive power is a physical component that is very closely related to someone who often uses his muscles to perform physical activities as well as in basketball games, while wrist flexion is a physical component that is very closely related to someone who often uses his arm muscles to perform activities or receive loads, as well as in basketball games, especially in doing Lay-up Shoots. Without good wrist flexion support, students can't be able to produce a good and precise lay-up or shooting.

E. Acknowledgement

Our deepest gratitude goes to the teachers and students at SMA Negeri 4 OKU, the Rector of PGRI Palembang University, the Director of the PGRI Palembang University Postgraduate Program, and the PGRI Palembang University Physical Education Study Program, who have supported us in doing this extraordinary thing. The project is self-financed. We would also like to thank our Physical Education friends who helped us a lot in the short time to complete this project.

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