

## The effect of hand-eye coordination, flexibility, and confidence training on Forehand serve accuracy in beginner tennis athletes Club table Softlyi Padang Panjang

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### Abstract

The purpose of the study was to determine the effect of hand-eye coordination training, flexibility and confidence on the accuracy of forehand serve in novice table tennis athletes of the Padang Panjang soft club. The type of research is quantitative. The population of novice table tennis Club Softlyi Padang Panjang athletes aged 12–15 years is 16 people. Total sampling technique. Confident data collection techniques using questionnaires and forehand service accuracy tests using forehand service accuracy. Data analysis using a two-way ANOVA test. The results of the analysis found that overall there was no difference in the accuracy of forehand service of the hand coordination training model with flexibility, judging from the average value of hand-eye coordination training (19.50) not much different from the average value of the flex model (18.25) and in the calculation of two-lane ANAVA there was no significant difference due to Sig.  $1.00 > 0.05$ . There is no interaction between the training model and confidence in physical fitness can be seen from Sig.  $0.834 > 0.05$ . Forehand service accuracy The flex model treatment was better than the hand-eye coordination model in the high-confidence group. The results of the analysis found that overall there was no difference in the accuracy of forehand service of the hand coordination training model with flexibility, judging from the average value of hand-eye coordination training (19.50) not much different from the average value of the flex model (18.25) and in the calculation of two-lane ANAVA there was no significant difference due to Sig.  $1.00 > 0.05$ . There is no interaction between the training model and confidence in physical fitness can be seen from Sig.  $0.834 > 0.05$ . Forehand service accuracy The flex model treatment was better than the hand-eye coordination model in the high-confidence group.

**Keywords:** Hand Eye Coordination Training, Flexibility, Self-Confidence, Sevis Forehand Accuracy, Table Tennis Beginner Athletes

### INTRODUCTION

Exercise can start from a young age to old age and can be done every day. In addition, sports have become a part of life for most people in the world, both in big cities and in remote rural areas. Therefore, the role of sports in this instant era has a very important role to support the health of each individual and group (Husniah, 2018; P S Mustafa, 2021; Supena et al., 2021) One sport that has been widely done by the community, namely the game of table tennis. Table tennis is one sport that has many fans, not limited to the age level of teenagers, but also children and parents, men and women are quite large in demand, this is because this sport is not too complicated to follow. Historically, table tennis is one of the most popular sports or games in the world, in addition to other sports such as football, tennis, or badminton.

This sport can be played by two people (singles) or four people (doubles) which is contrary to the rules, this table tennis sport is played inside the building or outside the building in singles or doubles and uses a table with a predetermined size (Kurniawan & Firdaus, 2020; Nopiyo et al., 2021; Siregar & Hardinoto, 2020). Table tennis games can be played as a game at leisure. Because the game of table tennis in addition to being able to develop the physique of each harmoniously and thoroughly can also be done by most athletes and can foster a good spirit of unity. Good players in table tennis must certainly be supported by good technical, strategic, mental, and physical abilities. In addition, the high and low ability to play a person in a table tennis game can be influenced by several factors, one of which is a basic technique (Pinton Setya Mustafa, 2020; Suwo, 2019).

However, based on what the author found during observations at the Softlyi Padang Panjang club, many novice athletes did not have service accuracy. When serving is not good even though the training done is quite routine, and the training done has not led to the accuracy of the forehand serve, only leads to the game while the forehand serve is only on the ability to do it. Serving accuracy greatly affects the victory in the competition of both beginners and athletes (Kurnia et al., 2017; Mu'hammad, 2017).

The first serve or presentation of the ball is very important in a game because if the service does not go in, the team (player) will not get points or points. Conversely, with a good serve, players have the opportunity to win the game, for the presentation of the first ball in the game by hitting the ball until it bounces first to the table of his field of play, then the ball must pass through the net and finally bounce on the opponent's field of play table. In this research problem, hand-eye coordination, and flexibility, greatly affects service. The punch used for service can vary, but in general, it can be divided into two, namely with forehand service punches called forehand service and backhand service strokes called backhand service (Asri et al., 2017; Atmaja & Tomolius, 2015).

Based on the description above, the author wants to provide an exercise to improve basic techniques, namely by applying hand-eye coordination exercises, flexibility, and confidence in the player's soul. In playing table tennis there are several basic techniques of stroke skills, including Forehand, Backhand, Drive, Push, Chop, Block, Service, and Spin" (Yulianto, 2015). Training is a systematic process of training or work that is carried out repeatedly on an ongoing basis with increasing the amount of load, to achieve the objectives of training, in the process of systematically preparing the athlete's organism to achieve maximum performance by being given regular physical and mental loads directed, increased and repeated in time (Marisa et al., 2022; Mukhtarsyaf et al., 2022; Sania et al., 2022).

Exercises with hand-eye coordination are exercises that indirectly function to train basic table tennis techniques, in practicing forehand or backhand strokes and basic techniques to be able to focus where the exercise such as bouncing off the wall, to the floor and above the bet can be done variously and done repeatedly. Hand-eye coordination is the ability to control and align body parts to perform a movement simultaneously. Coordination is a very complex component of basic motor because it involves several physical elements that must be able to interact fully with others. It is the same as stated by (Bompa & Tudor, 2000) "Coordination is a complex motor skill necessary for high performance".

Mastery of forehand technique is decisive for victory in table tennis matches. Forehand punch movements require routine practice and require a long time because this movement has difficulties such as; how to hold the Bed (grip), hand swing movements, advanced movements, and accuracy of hitting the ball on the Bed. Therefore, athletes are not enough if they only learn it once a week. Therefore, athletes are encouraged to follow a programmed training routine. Because athletes following regular training can be deeper and have plenty of time to learn forehand stroke movements in the game of Table Tennis. And it is expected that athletes can understand and be able to master the techniques of doing forehand movements properly and correctly. So that students' abilities can increase and learn goals in making forehand strokes in Table Tennis games can be achieved (Purwanto & Suharyana, 2017; Rachman et al., 2017).

The game of Table Tennis also requires good flexibility to avoid injury because, in the movement, the hips also play an important role in the techniques of hitting Table Tennis. Hip flexibility is needed to assist in hitting movements during the back swing and forward swing so that you can maximize the punches toward your opponent. Wrist flexibility is important because when making a forehand shot with added wrist flexibility, the spin of the ball that is hit will become tighter

and if a person experiences a lack of range of motion in the joints it can cause a lack of movement and can easily cause injury. Wrist flexibility in table tennis is one of the factors that is needed and even determines whether a player wins or not in a match. In addition, it must be supported by mastery of basic techniques such as forehand strokes. A player who has good wrist flexibility will be able to control the ball well and be able to return the ball in difficult positions (Kusnedi, 2019).

Flexibility is needed to assist in the movement of hitting at the time of forehand drive so that it can further maximize the blow toward the opponent. The flexibility stems from the area of motion of body parts around certain joints, so the measurement area score is influenced by anatomical limitations, which depend on the average degree of extensibility of the tendon. Someone who has good hip flexibility will be easy to do Table Tennis skills, the quality of the strokes produced will also be firmer because hip flexibility will help in the movement of forehand drive strokes, so it will avoid injury when doing hitting movements. Maximum flexion allows a group or one joint to move efficiently.

Thus having flexibility a person will be able to reduce the possibility of muscle and joint injuries, help develop speed, coordination, and agility, help the development of performance, Save energy expenditure (efficiency) when performing movements, and, Help improve posture. Therefore, the flexibility of a player is very useful in supporting agility and movement speed when making punches. In such a situation, flexibility is one of the physical elements that play an important role in being able to obtain forehand drive accuracy in playing Table Tennis. This is because the more flexible a player is, the better the level of agility and speed of movement in making forehand drives quickly and precisely (Pujiyanto, 2015; Yulianto, 2015).

Many novice table tennis club soft Padang Panjang athletes who played in the West Sumatra regional championship played very well because it was seen being able to achieve achievements with a long training period. They were able to bring out all the techniques at their disposal. However, in national championships such as the junior national championship in Jakarta in 2019, novice table tennis athletes from the Padang Panjang soft-club played poorly and rarely achieved maximum achievements. This is based on the author's observations of table tennis athletes of the soft club of Padang Panjang. As a concrete example, the author sees that there are table tennis athletes of the Padang Panjang soft-club who have very good techniques and exceed other athletes. In sparring he also played very well, but in regional and national championships he was not able to achieve brilliant achievements. In playing he looks hesitant and scared.

A lack of confidence will cause a person to be unable to solve complex problems. This lack of confidence is caused by the situation and condition of the athletes when participating in competitions so that they cannot achieve good achievements. Matsuda (Santosa, 2005) argues that to be able to excel, athletes need to be mentally prepared so that they can overcome the tension they often face both during heavy training and when competing. Mental coaching is done so that athletes are easy and practice concentration and self-control so that at critical moments they can still make decisions and coordinate themselves well. One of the mental aspects that need attention is the achievement motivation that an athlete has. (Rizal & Rusmana, 2020).

The authors suspect a lack of exercise that leads to concentration, flexibility, and mentality in athletes. Because the author's observations see the flexibility and concentration and confidence of novice athletes when entering the service session in the game slightly looks less concentrated and makes the shot inconstant, it can be seen the strength of the punch and the direction of the ball and much more. In this case, the author tries to provide training to novice athletes of the Padang Panjang soft club which refers to increasing flexibility, concentration, and confidence.

Based on the previous description, it can be concluded that to produce the right forehand stroke, it must be supported by the ability of hand-eye coordination, and flexibility because it greatly affects the accuracy of service and service accuracy, where accurate serves determine victory in table tennis matches.

## **METHOD**

This type of research is quantitative research with a quasi-experimental approach. Quasi-experimental research is a study that moves to find the influence between certain variables on other variables whose presence of these variables is triggered regarding a tightly controlled situation to find

a causal relationship between the two variables. The research design used is a Posttest-only control design.

This type of research uses a quasi-experimental method that uses a treatment design by Level 2 x 2, which is a factorial experiment involving two factors. This study examines the effect of independent variables on bound variables and attribute/moderator variables, namely: hand eye coordination training and flexibility (A) as an independent variable, forehand service accuracy (Y) as a dependent variable, and confidence (B) as an attribute/moderator variable. Each independent variable is classified into 2 (two). Treatment-free variables are classified into two forms of training (A), namely by hand-eye coordination (A1) and flexibility (A2). While the moderator variables are classified into two levels of confidence (B), high confidence (B1), and low confidence (B2).

The place of research data collection will be carried out at Hall Club Softlyi Padang Panjang, and pre-test and post-test data collection will be held at Hall Club Softlyi Padang Panjang. The research time was carried out during exercise 3-4 times a week, so it took 4 weeks to do 16 meetings. The population in this study was all 16 novice table tennis athletes of Club Softlyi Padang Panjang aged 12-15 years. Based on the population, the sampling technique used is total sampling. Based on the purpose of the study, the sample in this study was 16 novice table tennis athletes from Club Softlyi Padang Panjang aged 12-15 years.

Confident data collection techniques using questionnaires and forehand service accuracy tests using forehand service accuracy. Data analysis using a two-way ANOVA test. The description data described is data obtained after research and processed statistically, so the description of each research variable can be explained. The data in this study includes four data variables consisting of three independent variables (independent variables), and dependent variables (dependent variables).

Test analysis requirements, Data obtained from the results of analyzing data collected gradually by the research objectives. To analyze the data in this study is with the design of Factorial by Level 2 x 2, if an interaction is found between the learning model and nutritional status, it will be continued with the Tukey Test. Before the data is processed using the Anava Analysis technique, Anava requirements are first tested, namely the Normality test and the Homogeneity test of variance with a significant level of  $\alpha=0.05$ , while the Anava requirements test is:

A normal distribution test is a test to determine whether our data has a normal distribution so that it can be used in parametric statistics (inferential statistics). The usual way to calculate this problem is Ltabel. Data is said to be normal if the calculation obtained is  $<$  when compared to the L table.

Homogeneity Test, Homogeneity testing is the test of whether or not the variances of two or more distributions are the same. The variance homogeneity test is very necessary before we compare two or more groups so that the differences are not caused by differences in basic data (the inhomogeneity of the groups being compared).

## **RESULTS AND DISCUSSION**

### **Results**

The object of this study is the difference in the results of the accuracy of the forehand serve as a result of the treatment between the eye-hand coordination training model and the treatment of the flexibility model which is associated with the accuracy of the forehand serve. Based on the research design by level 2x2 using two-way ANOVA. The research data were grouped into (1) the results of the accuracy of the forehand serve which was given the treatment of hand-eye coordination exercises (2) the results of the accuracy of the forehand service which was given the flexibility treatment, (3) the results of the accuracy of the forehand serve which had high confidence, (4) the results of the service accuracy forehand which has low self-confidence, (5) results of forehand service accuracy given hand-eye coordination exercises and have high confidence, (6) results of forehand service accuracy given hand-eye coordination exercises and have low self-confidence, (7) accuracy results forehand serve given flexibility training and have high confidence, (8) results of accuracy of forehand serve given flexibility training and have low confidence.

#### **1. Results of Forehand Service Accuracy Treatment Group Hand Eye Coordination Training**

Based on the results of data analysis on the results of forehand serve accuracy from scores achieved in the group treated with hand-eye coordination exercises the lowest score was 16, the

highest score was 21, the average score was 19.5, and the standard deviation was 1.69. Presentation of data through frequency distribution tables with many classes 3 and intervals of class 2.

## **2. Results of Forehand Service Accuracy Group Flex Training Treatment**

Based on the results of data analysis on the results of forehand serve accuracy from the scores achieved in the group given flex training treatment the lowest score was 15, the highest score was 22, the average score was 18.25 and the standard deviation was 2.37. Presentation of data through frequency distribution tables with many classes 4 and intervals of class 2,

## **3. Results of forehand service accuracy of groups that have high confidence**

Based on the results of data analysis on the results of forehand serve accuracy from scores that have high confidence with the lowest score of 15, the highest score of 21, the average score of 18.87, and the standard deviation of 2.29. Presentation of data through frequency distribution tables with many classes 4 and intervals of class 2.

## **4. Results of forehand service accuracy of groups that have low confidence**

Based on the results of data analysis on forehand serve accuracy results from scores that have low confidence with the lowest score of 16, the highest score of 22, average score of 18.87, and standard deviation of 2.03. Presentation of data through frequency distribution tables with many classes 4 and intervals of class 2,

## **5. Results of Forehand Service Accuracy Provided by Hand Eye Coordination Training and High Confidence**

Based on the results of data analysis on the results of forehand service accuracy, the group was given high hand-eye coordination and confidence with the lowest score of 16, the highest score of 21, the average score of 18.75, and the standard deviation of 2.21. Presentation of data through frequency distribution tables with many classes 3 and intervals of class 2.

## **6. Results of Forehand Service Accuracy Given Hand Eye Coordination Training and Low Self-Confidence**

Based on the results of data analysis on the results of forehand service accuracy, the group was given low hand-eye coordination and confidence with the lowest score of 15, the highest score of 21, the average score of 19, and the standard deviation of 2.70. Presentation of data through frequency distribution tables with many classes 3 and intervals of class 2.

## **7. Results of Forehand Service Accuracy Given High Flexibility and Confidence Training**

Based on the results of data analysis on the results of forehand serve accuracy, the group was given high flexibility and confidence training with the lowest score of 17, the highest score of 20, the average score of 19, and the standard deviation of 1.41. Presentation of data through frequency distribution tables with many class 2 and class 2 intervals.

## **8. Results of Forehand Service Accuracy Given Low Flexibility and Confidence Training**

Based on the results of data analysis on the results of forehand serve accuracy, the group given low flexibility and confidence training with the lowest score of 16, the highest score of 22, the average score of 18.75, and a standard deviation of 2.75. Presentation of data through frequency distribution tables with many class 2 and class 2 intervals

### **a. Analysis Assessment Test**

The inferential analysis used in this study is the Analysis of Two-Road Variance with Interaction (ANAVA). Then proceed with the test of the difference in the average value of the two treatment groups. For this form of analysis, several requirements are needed regarding the data to be analyzed. Those requirements include randomness of sample data, data coming from normally distributed populations, and data from treatment groups coming from homogeneous populations. The randomness test of sample data is based on the assumption that the sample subjects in each treatment group are randomly selected from the study population.

Fulfillment of the requirement that the sample data come from a normal distribution population is carried out by testing the normality of the data using the Levene test. Meeting the homogeneous requirement of population variance for the entire treatment group was performed using the Bartlett test at a significance level of  $\alpha = 0.05$ .

### **1. Normality Test**

Data normality testing in this study was carried out on eight groups of data, namely the results of forehand service accuracy with hand-eye coordination and flex exercises and the results of forehand

service accuracy with high and low confidence. In the test, the real level of  $\alpha = 0.05$  was used. A summary of the calculation results is shown in the table below:

Table 2. Normality Test Results Two Way Anova Research Data Distribution

Tests of Normality							
	Exercise	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
<b>Akurasi Servis Forehand</b>	Hand-Eye Coordination	.313	8	.020	.839	8	.074
	Flexibility	.210	8	.200*	.922	8	.450
<b>*. This is a lower bound of the true significance.</b>							
<b>a. Lilliefors Significance Correction</b>							

Tests of Normality							
	Confident	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
<b>Akurasi Servis Forehand</b>	Tall	.243	8	.184	.919	8	.425
	Low	.297	8	.037	.896	8	.268
<b>a. Lilliefors Significance Correction</b>							

The table above shows that all data groups tested for normality with the Shapiro-Wilk test gave a Sig. the value that was greater than a Sig value of 0.05. Thus it was concluded that all data groups in this study were normally distributed.

## 2. Uji Homogenitas Varians

The homogeneity test in this study using Levene's test was carried out on (a) two treatment groups A1 and A2, (b) two attribute groups B1 and B2, and (c) four groups of cells in the experimental design A1B1, A1B2, A2B1, A2B2. Testing the homogeneity of variance through the Sig. approach with test criteria accepts H0 if Sig. > 0.05 which means homogeneous variance and H0 if Sig. < 0.05 which means inhomogeneous variance. Diuji pada taraf kepercayaan  $\alpha = 0,05$ . Tested at confidence level  $\alpha = 0.05$ . The results of the calculation and test of the significant variance of each group of data can be summarized in the table below:

Table 1. Hasil Uji Homogenitas two way Anova Data Penelitian

Levene's Test of Equality of Error Variances <sup>b</sup>					
		Levene Statistic	df1	df2	Sig.
Forehand Service Accuracy	Based on Mean	1.077	3	12	.396
	Based on Median	.510	3	12	.683
	Based on the Median and with adjusted df	.510	3	6.230	.690
	Based on trimmed mean	.975	3	12	.437
Tests the null hypothesis that the error variance of the dependent variable is equal across groups.					
a. Dependent variable: Akurasi Servis Forehand					
b. Design: Intercept + latihan + percayadiri + latihan * percayadiri					

Based on the table above, the homogeneity test result with the test criteria is H0 Sig. 0.396 > 0.05 which means homogeneous variance with significance  $\alpha = 0.05$ . Thus it can be concluded that all four data groups are Homogeneous.

**b. Hypothesis Testing**

Hypothesis testing using a two-track Analysis of Variance (ANOVA) using SPSS. Furthermore, if there is an interaction between the training model and confidence in the accuracy of the forehand serve. Two-path variance analysis is a calculation technique that aims to investigate two influences, namely the main effect and the interaction effect. The main influence is the influence of differences in hand-eye coordination training models and flexibility, as well as the influence of differences in confidence in the form of high confidence and low confidence on forehand serve accuracy, while interaction is the influence between training models and confidence on forehand service accuracy. Before calculating the two-path ANAVA, the required values are first calculated, namely normality and homogeneity of the data. Furthermore, two-lane ANAVA is calculated using SPSS. The results of the two-line ANAVA calculation using SPSS can be briefly seen in the following table:

Table 4. Summary of Two-Line ANAVA calculation results

<b>Tests of Between-Subjects Effects</b>					
Dependent Variable: Forehand Service Accuracy					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.250 <sup>a</sup>	3	.083	.015	.997
Intercept	5700.250	1	5700.250	1044.321	.000
Latihan	.000	1	.000	.000	1.000
Percayadiri	.000	1	.000	.000	1.000
latihan * percayadiri	.250	1	.250	.046	.834
Error	65.500	12	5.458		
Total	5766.000	16			
Corrected Total	65.750	15			

a. R Squared = .004 (Adjusted R Squared = -.245)

Based on the calculation results presented in the two-track ANAVA table above, it can be argued that in making decisions, the basis for two-track ANAVA is:

1. If the Sig. value < 0.05, then there is a difference in forehand service accuracy results based on factor variables.
2. If the Sig. value > 0.05, then there is no difference in forehand service accuracy results based on factor variables. To answer the research hypothesis, you must look at the value of Sig. which is compared to 0.05.
3. Sig. 1.00 > 0.05 were obtained, so it can be concluded that "there is no difference in the accuracy of the athlete's forehand serve based on the training model given".
4. A sig. value of 1.00 > 0.05 was obtained, so it can be concluded that "there is no difference in the results of the athlete's forehand serve accuracy based on confidence".
5. Sig. 0.834 > 0.05 were obtained, so it can be concluded that "there is no significant interaction between the training model and confidently determining the results of the athlete's forehand serve accuracy".

With the proof of the research hypothesis that states that there is no significant interaction between the hand-eye coordination training model and the flex model with confidence in the accuracy of forehand serve, no further tests were carried out with the Tukey Test. Based on the two-track ANOVA test using SPSS, it showed that there was no interaction between the training model and confidence, so Tukey's follow-up test was not carried out. This is by what is said (Irianto, 2010) that if the interaction of the two factors is not significant (accepting the null hypothesis), it means that there is no need to carry out further analysis actions.

**Discussion**

This study was designed to determine the accuracy of forehand serve by using hand-eye coordination exercises, flexibility, and confidence as moderator variables. After data analysis using the two-track ANAVA approach and not continued with the Tukey Test because in this study hypothesis testing was rejected. This chapter is the result of statistical data analysis that needs further study to

explain why this research hypothesis cannot be accepted results, why there is no significant interaction between hand-eye coordination exercises and flexure confidently, and so on.

**1. Overall, there is no hand-eye coordination and flexibility training in beginner table tennis athletes Club Softly Padang Panjang**

The results of testing the first hypothesis showed that overall the average accuracy score of the forehand series in the hand-eye coordination exercise model group was the same as in the spasticity model group. In the hand-eye coordination training model group, the results were not much different, which means there was no significant difference with the spasticity model. Thus, it can be clearly said that these two learning models both have the same influence on physical fitness.

Flexibility can help athletes to develop the movements they want and prevent injury. According to Arsil, (2014) Flexibility is the ability to move joints and muscles in the overall space of movement. While Jonath / Krempel in Syafruddin (2011) said "Flexibility is the body's ability to perform exercises with a large or wide amplitude of movement". Increasing body flexibility can be done in the form of programmed and continuous exercises such as dynamic stretching exercises with bending exercises while rotating the shoulders and static stretching exercises by extending the muscles in the joints as far as possible such as sitting by grabbing the tips of the toes. For this reason, trainers must compile a good and correct program by the needs and goals to be achieved. If the program is made correctly, then the flexibility of an athlete will be good. And this will have an impact on increasing his performance.

Research Marisa et al., (2022); Surya, (2022) In volleyball extracurricular participants in SMK Negeri 1 Huragi students, it was found that there was a relationship between waist flexibility and hand-eye coordination together with upper serviceability in volleyball extracurricular participants of SMK Negeri 1 Huragi. Research on hand-eye coordination was also conducted by (Tober et al., 2021) with smash accuracy in MA Kefullan badminton extracurricular students where it was found that there was a relationship between hand-eye coordination and Smash Accuracy in Badminton MA Kefullan Extracurricular Students and also Sudiby's research, (2018) on volleyball in SMK 21 Jakarta students, obtained a group that was treated with the Overall Exercise Method better than the group that was given the section treatment of volleyball service skills for students which has low coordination.

Research Bafirman, (2017) about Improving the Quality of Physical Fitness of Elementary School Students by Using Physical Fitness Control Book obtained findings that the benefits of using physical fitness control books are: (1) knowing one's physical fitness, (2) determining the right training program to maintain physical fitness, (3) evaluating the physical success of training programs, (4) carrying out physical fitness regularly, (5) improving physical fitness through physical activity or exercise another physique. Also, there was an increase in the average scores of students during the tryout.

Hand-eye coordination is very necessary for table theist games, especially in serving forehand where when moving towards the ball while swinging the racket, then hitting it with the correct technique the player must have good coordination skills (Handayani, 2018). Coordination is needed to unite several elements so that they can make one common goal, so that the more able a person is to integrate hand-eye coordination and the stronger the hand movement, the forehand service results will be good or get maximum results.

There is no difference between hand-eye coordination and flex training with forehand serve accuracy in table tennis because hand-eye coordination is very necessary for hitting service techniques. This hand-eye coordination is by making a punch, especially when hitting the ball. When touching the forehand service technique, which is when swinging the arm, hand-eye coordination greatly determines the success of the athlete in making the service stroke as well as flexibility.

**2. There is No Interaction between the Training Model and Confidence in the Accuracy of Forehand Service**

Based on the results of the hypothesis test, data results were obtained Sig. 0.834 > 0.05. This proves that the research hypothesis proposed that there is no interaction between the training model and confidence in the accuracy of the forehand serve. The effect of interaction is shown visually in the following figure: Previous research was also conducted by Hasyim, (2019) In the basketball game STKIP YPUP Makassar, the results of the research showed that athletes' confidence increased after being given hand-eye coordination training and also research (FIKRI, 2021) Badminton also found that athletes' confidence increased after training.



According to researchers, athletes who have confidence always think positively to show something their best and allow confidence in themselves that they can do something so that their performance remains good. Conversely, athletes who have negative thoughts and are not confident in themselves to perform their best will always doubt and doubt that they can do so that their performance decreases.

### **3. Athlete's forehand serve accuracy Hand Eye Coordination Training Treatment is better than flexibility in high confidence**

Based on the results of the third hypothesis test, showed that overall, the average score in the group with high self-confidence through a descriptive statistical approach showed that the average difference in forehand serve accuracy between groups of athletes who were given hand-eye coordination training models was smaller than the flexibility model. The two learning models have an average score of 18.75 and 19 so descriptively they show that they are different. Based on the results of these calculations, it can be said that the training model using flexibility is better than the eye-hand coordination model for forehand service accuracy in the table tennis athlete Softi Padang Panjang who has high self-confidence. Students who have high self-confidence can realize their knowledge in the form of skills and can take advantage of the surrounding environment as a medium or tool that supports the training process when working on certain projects.

Self-confidence is the main capital of an athlete to be able to progress because the achievement of high achievements and breaking the athlete's record itself must begin with believing that the athlete can and can surpass the achievements he has achieved. Without having full self-confidence, athletes will not be able to achieve achievements, because there is an interconnection between achievement motives and self-confidence. People who have low self-confidence tend to always have negative feelings about themselves, weak self-confidence, and inaccurate knowledge of their capacities (Sulistiadinata et al., 2020). Self-confidence is usually closely related to emotional security. The more confident you are, the more stable your emotional security is.

### **4. Athlete's Forehand service accuracy Training Treatment Better Hand-Eye Coordination Compared to Flexibility in Low Self-Confidence**

Based on the results of the fourth hypothesis test, overall, the average score in the group that has low self-confidence through a descriptive statistical approach shows that there is a difference in the average accuracy of forehand serve between the group of athletes given the hand-eye coordination training model with the flexibility model. Both learning models have an average score on maturity coordination of 19 and flexibility of 18.75 so descriptively they show they are different Based on the results of these calculations, it can be said that the two training models use different hand-eye coordination with the flex model on forehand service accuracy in table tennis athletes Softlyi Padang Panjang who have low self-confidence. Students who have low self-confidence are less able to realize their knowledge into skills compared to athletes who have high self-confidence.

People who have low self-confidence tend to always have negative feelings about themselves, weak self-confidence, and inaccurate knowledge of their capacities (Sulistiadinata et al., 2020). Self-confidence is usually closely related to emotional security. The more confident you are, the more stable your emotional security is. High self-confidence will improve the quality of the game in sports. Limitations of this study There are still some limitations that need to be put forward as a reference for readers and future research relevant to this study. The limitations in question are as follows: 1) This study was only carried out on one group due to the limited time and energy of researchers so the conclusions drawn only apply to the sample. 2) This study only examines two kinds of training models there are still many training models that can be given in terms of table tennis games.

## **CONCLUSION**

Based on the results of hypothesis testing and discussion of research results, it can be concluded as follows: 1) Overall there is no difference in the accuracy of forehand service of the eye coordination training model with flexibility. 2) There is no interaction between the training model and confidence in physical fitness. 3) Forehand service accuracy The treatment of the flex model is better than that of the hand-eye coordination model in the high-confidence group. 4) Forehand service accuracy The treatment of the hand-eye coordination model is better than the flex model in the low confidence group.

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