THE INFLUENCE OF KINESTHETIC PERCEPTION, HAND-EYE COORDINATION, AND SELF-CONFIDENCE ON STROKE DRIVE SKILLS IN BADMINTON GAME

Hilman Hadistya[1], Ramdan Pelana[1], Yasep Setiakarnawijaya[1]

[1] Pendidikan Olahraga, Pascasarjana Universitas Negeri Jakarta,
Komplek Universitas Negeri Jakarta Gedung M. Hatta Jl. Rawamangun Muka, Jakarta Timur, Indonesia 13220

Corresponding author. Email hadistya22@gmail.com

Abstract, This study aims to reveal the direct and indirect effects, as well as the simultaneous effect of exogenous variables on endogenous variables. The sample in this study were 30 beginner athletes of Gold Badminton Club and Sarwendah Badminton Club Jakarta. The research approach used in this study is an associative quantitative approach, a survey method with a test technique. The data analysis technique used a path analysis approach (path analysis). Data were analyzed by path analysis through structural model testing at = 0.05. The results showed that: 1) there was a direct kinesthetic effect on the badminton game's ball drive skills of 0.438, 2) there was a direct effect of eye-hand coordination on the badminton game's ball drive skills of 0.208, 3) there was a direct influence of self-confidence on the ball drive skills badminton game is 0.336, 4) there is a direct kinesthetic effect on self-confidence which is 0.237, 5) there is a direct effect of eye-hand coordination on self-confidence which is 0.199. From the analysis of the direct and indirect effects, it can be concluded that the biggest influence is the direct effect of kinesthetic coordination on the badminton game's repulsive drive skills of 0.438.

Keywords: kinesthetic; coordination; self-confident; badminton.

INTRODUCTION

In Indonesia, badminton has been known to most people from cities to remote villages. This is due to the achievements that have reached the world level in various international events. Every participation of Indonesian badminton at the international level is always broadcast by electronic media, especially television which can be watched live during matches. This is one of the things that makes Indonesian people familiar with badminton. However, it is not only limited to knowing, but from adults to children who like to play badminton even though they don't

have a racket, they can modify the tool from a piece of board to a shuttlecock bat. Based on the achievements of Indonesian badminton athletes, the government is very concerned about the development of badminton sports achievements to be maintained. This is evidenced by the existence of various aids, both facilities, infrastructure, and funds for the development of badminton sports achievement development.

Badminton is a sport that is played using nets, rackets, and shuttlecocks with beating techniques that vary from basic skills

to the most complex basic skills. Zafhrin (2015) explains that badminton is applicable to anyone in single, double and mixed doubles (Zulbahri & Melinda, 2019). The purpose of the badminton game is to get points and win by crossing and dropping the shuttlecock in the opponent's field of play and trying so that the opponent cannot hit the shuttlecock or drop it in its own playing area (Gunawan et al., 2017). So, in this badminton game, athletes can choose to participate in singles, doubles or mixed doubles.

The drive stroke is a hard and fast stroke in which the shuttlecock is horizontal. Drive strokes are usually used by players to attack and return the ball quickly both straight and cross to the opponent's area (Subarkah & Marani, 2020). A drive stroke is a stroke which can make the ball's path flat in passing through the net or net (Nur & Mulyana, 2017). To complicate the opponent's return, it must be done at high speed. The direction of the drive stroke does not have to be straight but can be to the right or left side. To do a drive shot, it can be combined with a forehand or backhand shot to get points when playing badminton. Drive or fast stroke is the essence of badminton game because after stance position, grip grip and footwork to catch the shuttlecock, a badminton player must master the technique

of hitting to return the opponent's blow (Ridwan et al., 2018). Drive is a shot where the shuttlecock is hit so fast that the opponent barely has time to act (Nuansa. G Mauludy & Sartono, 2017).

In badminton, to produce effective and efficient drive strokes, especially when playing badminton requires a kinesthetic perception ability, good move. The sense of motion in sports is known as kinesthetic perception. This kinesthetic perception must be shown by the feeling of the body, or objects crossing the air where the muscles must exert force at high speed in order to carry the body or object during the execution of motion to be able to achieve a distance of accuracy (Kusuma, 2020). Kinesthetic perception is a function related to kinesthetic information, namely information obtained from muscle and joint movements as feedback on perceptual mechanisms that must be felt, compared and identified in the same way as information obtained from the surrounding environment (Ngadenan, 2015). Perceptual mechanisms are basically related to information processing that occurs in a person, where the information received is then detected, selected and compared to obtain an absolute decision. Perceptual abilities essentially help a person in

interpreting stimuli in order to adapt to the environment.

In the movement of the drive stroke, there are factors that support the accuracy of the drive stroke itself, one of which is its relation to hand eye coordination. Coordination is a person's ability to control body movements, a person is said to have good coordination if he is able to move easily and smoothly in a series of movements, the rhythm is well controlled, and is able to perform efficient movements (Muliana et al., 2019). So whether or not a person's movement coordination is reflected in his ability to perform a movement smoothly, precisely and efficiently. Thus, eye-hand coordination is a person's ability to carry out a movement properly and correctly involving the eyes and hands as the main determinant of the success of a movement.

In carrying out the drive stroke of a beginner athlete in addition to being supported by the physical condition component, it needs to be supported in psychological aspects such as self-confidence. Self-confidence is the belief in one's own abilities that are adequate and aware of their abilities, and can use them appropriately. Maslow said "Confidence is the basic capital for the development of self-actuality" (Sholiha & Aulia, 2020). With confidence people will be able to know and understand themselves. Meanwhile, lack of self-confidence will hinder the development of self-potential. So people who lack confidence will be someone who is pessimistic in facing challenges, afraid and hesitant to convey ideas, and indecisive in making choices and often comparing themselves with others.

Based on an explanation of the background of the problem, the researchers are interested in conducting a scientific study regarding the effect of kinesthetic perception, eye-hand coordination, confidence in the badminton game's stroke drive skills in novice athletes at Gold and Sarwendah Badminton Club Jakarta.

METHOD

Research design

The research method is a scientific way to obtain data with a specific purpose and use; the scientific way means that this research activity is based on scientific characteristics, which are rational, empirical, and systematic (Sugiyono, 2013). The research method that will be used in this study is an associative quantitative approach, a survey method with test and measurement techniques while the data analysis technique uses a path analysis approach, which is a technique for analyzing causal relationships

that occur in multiple regression if the independent variable affects the variable. depends not only directly but also indirectly (James Tangkudung, 2016).

The variables studied consisted of four variables consisting of three exogenous variables and one endogenous variable. The exogenous variables consist of Kinesthetic Perception (X1), Eye-Hand Coordination (X2), Confidence (X3) and the endogenous variable is the Skill of Stroke Drive in Badminton for Beginner Athletes at Gold and Sarwendah Badminton Club Jakarta (Y).

This research was carried out from May 2021. The place of research was carried out in Jakarta at the Gold Badminton Club Practice field.

Population and Sample

Sugiyono (2015) defines that population is a generalization area consisting of objects/subjects that have certain quantities and characteristics determined by researchers to be studied and then drawn conclusions (Handayati, 2016). In this study, the target population or target population is all beginner athletes at the Gold Badminton Club and Sarwendah Badminton Club Jakarta.

Sampling technique is a sampling technique to determine the sample to be used in research. The sampling technique in this research is total sampling. Sugiyono (2016) said that total sampling is a sampling technique where the number of samples is the same as the population (Muhtarom & Prayitno, 2018). The sample that will be used is the total number of beginner athletes of Gold Badminton Club and Sarwendah Badminton Club Jakarta as many as 30 people.

Research instrument

The research instruments used in this study were 1) the badminton stroke drive test using the badminton stroke drive test instrument, 2) the kinesthetic perception test using the kinesthetic perception test, 3) the eye-hand coordination test using the throwing and catching tennis ball test, 4) the confidence test using the self confidence questionnaire.

RESULTS AND DISCUSSION
Research result

The data obtained were analyzed using statistical formulas in the form of data descriptions, normality tests, linearity tests and regression significance tests. After the normality test, linearity regression test, and regression significance were carried out, then followed by path analysis to test the research hypothesis. The data analyzed in this study consisted of four units of analysis, namely: 1) kinesthetic perception test results (X1), 2)

hand eye coordination test results (X2), 3) self-confidence test results (X3), 4) drive stroke skills (Y).

1. Structural model testing I

The structural equation formed in the first substructure model consists of 4 path coefficients from variables X1 to Y, X2 to Y, and X3 to Y in the form of: $Y = py1X1 + py2X2 + py3X3 + py\epsilon1$. With a large $(Ry.123)2 = 0.495$ so that $py\epsilon1 = 0.754$. So the form of the structural equation in the first sub-structure model: $Y = 0.438X1 + 0.208X2 + 0.336X3 + 0.754$. A description of the estimated path coefficient is described in the table below and visualized through the image display below:

Table 1. Structural Model Path Coefficient I

Coefficientsᵃ

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1 (Constant)	36.821	1.739		21.178	.000
Kinesthetic Perception (X1)	.076	.026	.438	3.951	.007
Eye-hand coordination (X2)	.060	.042	.208	2.135	.016
Self-confident (X3)	.041	.018	.336	2.314	.029

a. Dependent Variable: Skill Drive Punch Badminton Game (Y)

2. Structural model testing II

The structural equation formed in the second substructure model consists of 3 path coefficients from variables X1 to

X43 and X2 to X3 in the form of: $X3 = p31X1 + p32X2 + p3\epsilon2$. With a large $(R3.12)2 = 0.078$ so that $p4\epsilon2 = 0.994$. So the form of the structural equation in the second sub-structure model: $X3 = 0.237X1 + 0.199X2 + 0.994$. A description of the estimated path coefficient is described in the table below and visualized through the image display below:

Table 2. Structural Model Path Coefficient II

Coefficientsᵃ

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1 (Constant)	91.634	6.792		13.492	.000
Kinesthetic Perception (X1)	.340	.274	.237	2.241	.022
Eye-hand coordination (X2)	.235	.456	.199	2.115	.010

a. Dependent Variable: Confidence (X3)

Table 3. Recapitulation of Hypothesis Testing Results

Hipotesis	Koefisien Jalur	t_{hitung}	t_{tabel} $\alpha = 0,05$	Keputusan Uji
There is a positive direct effect of Kinesthetic Perception on the Badminton Game's Kick Drive Skills	0,438	3,95 **	2,05	H0 rejected X1 has a direct positive effect on Y
There is a direct positive effect of eye-hand coordination on the driving skills of badminton games	0,208	2,13 **	2,05	H0 rejected X2 has a direct positive effect on Y
There is a positive direct effect of Confidence on Drive Skills in Badminton Games	0,336	2,31 **	2,05	H0 rejected X3 has a direct positive effect on Y
There is a positive direct effect of Kinesthetic	0,237	2,24 **	2,05	H0 rejected X1 has a positive

Perception on Self-confidence				direct effect on X3
There is a direct positive effect of eye-hand coordination on self-confidence	0,199	2,11 **	2,05	H0 rejected X2 has a direct positive effect on X3

Discussion of Research Results

Based on the test results of all the hypotheses that have been carried out in the hypothesis testing section, it can be stated that:

First, the results of the first hypothesis analysis resulted in the finding that Kinesthetic Perception had a direct positive effect on the badminton game's stroke drive skills. Based on these findings, it can be concluded that the stroke drive skill of the Badminton Game is positively influenced by Kinesthetic Perception. Improved Kinesthetic Perception will result in an increase in Badminton Game Drive Punch Skills.

Second, the results of the second hypothesis analysis resulted in the finding that eye-hand coordination had a direct positive effect on the badminton game's stroke drive skills. Based on these findings, it can be concluded that the stroke drive skill of the Badminton Game is positively influenced by eye-hand coordination. Improved eye-hand Coordination will result in an increase in Badminton Game Drive Punch Skills.

Third, the results of the third hypothesis analysis resulted in the finding that self-confidence has a direct positive effect on the badminton game's stroke drive skills. Based on these findings, it can be concluded that the skill of hitting drive in badminton is directly influenced positively by self-confidence. Increased Confidence will result in an increase in Badminton Game Drive Punch Skills.

Fourth, the results of the fourth hypothesis analysis provide a finding that Kinesthetic Perception has a direct positive effect on self-confidence. Based on these findings, it can be concluded that self-confidence is directly influenced positively by Kinesthetic Perception. Increased Kinesthetic Perception will result in increased Confidence.

Fifth, the results of the fifth hypothesis analysis resulted in the finding that hand-eye coordination had a direct positive effect on self-confidence. Based on these findings, it can be concluded that self-confidence is directly influenced positively by hand-eye coordination. Improved eye-hand Coordination will result in increased Confidence.

Self-confidence is a sense of confidence and belief in one's abilities in carrying out the desire to achieve

achievement and achievement. Athletes who have good self-confidence will easily perform their drive stroke skills well, supported by good eye-hand coordination, so that the results of the drive stroke will be maximized. So in this case eye-hand coordination and self-confidence are very important things in badminton and become a major factor in training and matches.

CONCLUSION

Conclusions were drawn based on research findings with exogenous variables consisting of Kinesthetic Perception (X1), Eye-Hand Coordination (X2) and Confidence (X3). The endogenous variable is Drive Punch Skill (Y), as follows:

1. Kinesthetic Perception has a direct positive effect on the badminton game's punch drive skills. This means that by increasing the kinesthetic perception, it will improve the badminton game drive stroke skills in beginner athletes.

2. Eye-hand coordination has a direct positive effect on the badminton game's drive stroke skills. This means that with good eye-hand coordination, it improves the badminton game's stroke drive skills in beginner athletes.

3. Confidence has a direct positive effect on the badminton game's punch drive skills. This means that by increasing self-

confidence, it can improve the badminton game drive stroke skills in beginner athletes.

4. Kinesthetic perception has a direct positive effect on self-confidence. This means that better kinesthetic perception can increase the confidence of beginner athletes.

5. Eye-hand coordination has a direct positive effect on self-confidence. This means that having good eye-hand coordination can increase self-confidence in beginner athletes.

REFERENCES

Gunawan, R., Subarjah, H., & Sudirjo, E. (2017). Perbandingan antara metode latihan shadow dan permainan sentuh warna terhadap keterampilan footwork bulutangkis. *Jurnal UPI*, 1-10. https://ejournal.upi.edu/index.php/Spo RTIVE/article/view/10898.

Handayati, R. (2016). Analisis Faktor-Faktor Yang Mempengaruhi Tingkat Kepuasan Konsumen Di Pong-Pong Cafe Lamongan. *Jurnal Penelitian Ekonomi Dan Akuntasi*, *I*(3).

Mauludy, Nuansa. G, & Sartono, H. (2017). Hubungan Koordinasi Mata Dan Tangan Dengan Hasil Pukulan Drive Dalam Permainan Bulutangkis. *Jurnal Kepelatihan Olahraga*, *9*(1), 64-71.

Mauludy, Nuansa. G, & Sartono, H. (2017). Hubungan Koordinasi Mata Dan

Tangan Dengan Hasil Pukulan Drive Dalam Permainan Bulutangkis. *Jurnal Kepelatihan Olahraga*, *9*(1), 64-71.

Muhtarom, A., & Prayitno, D. (2018). Determinasi Kualitas Produk, Kepercayaan Merek, Harga, Kualitas Pelayanan dan Promosi Terhadap Keputusan Pembelian (Studi Kasus Di Cabang PT. Surganya Motor Indonesia (Planet Ban) Gresik). *JURNAL EKBIS*, *19*(1). https://doi.org/10.30736/ekbis.v19i1.13 7.

Muliana, A., Bismar, A. R., & Suwardi, S. (2019). Pengaruh Koordinasi Mata-Tangan, Kekuatan Otot Lengan dan Kelentukan Pergelangan Tangan Terhadap Kemampuan Pukulan Servis Panjang Dalam Permainan Bulutangkis Pada Club Pb. Matrix Makassar. *Jurnal UNM*, *8*(5), 55.

Ngadenan, N. (2015). Kontribusi Persepsi Kinestetik Dan Kelincahan Teriiadap Hasil Tembakan Bola Basket. *Jurnal Nusantara of Research*, *02*(April), 36-48.

Nur, L., & Mulyana, E. H. (2017). *Permainan Bola Kecil Untuk Meningkatkan*. *1*(1), 53-65.

Ridwan, M., Dlis, F., Humaid, H., & Latihan, M. (2018). Model Latihan Strokes Bulutangkis Untuk Atlet Single Usia Pemula. *Jurnal Siliwangi : Seri Pendidikan P- ISSN 2476-9312*, *4*(2), 76-79.

Sholiha, S., & Aulia, L. A.-A. (2020). Hubungan Self Concept dan Self Confidence. *Jurnal Psikologi : Jurnal Ilmiah Fakultas Psikologi Universitas Yudharta Pasuruan*, *7*(1), 41-55. https://doi.org/10.35891/jip.v7i1.1954.

Subarkah, A., & Marani, I. N. (2020). Analisis Teknik Dasar Pukulan Dalam Permainan Bulutangkis. *Jurnal Menssana*, *5 No.2*, 146-156.

Tangkudung, James. (2016). *Macam-macam metodologi penelitian uraian dan contohnya*. Lensa Media Pustaka Indonesia.

Zulbahri, & Melinda, C. (2019). Metode Practice Style dan Guided Discovery Style Serta Keterampilan Teknik Dasar Atlet Bulutangkis. *Prosiding SENFIKS (Seminar Nasional Fakultas Ilmu Kesehatan Dan Sains)*, *1*(1), 28-37.