

The Relationship of Balance and Concentration on Yeop Chagi's Kick on the Taekwondo Deaf Poomsae Athletes of Santi Rama SLB-B School

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Abstract:- The purpose of this study is to provide information on how deaf poomsae taekwondo athletes at SLB-B (school with special needs) Santi Rama can visualize the yeop chagi kick technique correctly with some practices. This study used an explanatory survey method. The research for this paper was conducted at Santi Rama SLB-B, South Jakarta. The population in this study was all deaf extra-curricular poomsae athletes at SLB-B Santi Rama, that is 30-50 people / deaf poomsae taekwondo athletes. Analysis technique of the data used is quantitative analysis with the aim of finding a correlation between balance and concentration of Taekwondo yeop chagi kicks by using descriptive analysis methods. The coefficient of determination of balance and concentration in momtong yeop chagi is $(r_{y1-2})^2 = 0.081$ which means that 8.1% of yeop chagi kick in taekwondo poomsae is connected by balance and concentration together with the results of the balance data statistics, concentration data and momtong yeop chagi kick data. The factor for deaf athletes is the balance and concentration of momtong yeop chagi kick. This problem for deaf athletes is balance because the balance data results are not perfect. In fact, the hearing and hearing system are connected in the inner ear.

Keywords:- Deaf, Taekwondo, Momtong Yeop Chagi.

I. INTRODUCTION

Sport for people with disabilities is used as a medium to develop their potential and talents, considering that every human being besides having deficiencies; they also have their own strengths, abilities, and uniqueness. The choice as an athlete for people with disabilities is understandable since with sports media, people with disabilities can prove that they are able to compete and gain achievements.

In some deaf people, there is a balance disorder; it can be seen from the way they walk which is stiff and rather bent, also with faster eye movements. This shows that they want to capture or know the state of the surrounding environment. Their breathing is usually short because they are not trained through speaking activities. Some deaf poomsae taekwondo athletes have deficiencies in physical components, especially balance. Therefore, the deaf athletes performing momtong yeop chagi kicks can fall easily.

Balance is the ability to maintain the human neuromuscular system in static conditions, or control the neuromuscular system in an efficient position or posture as we move.

In Taekwondo martial art which is a Korean cultural heritage, it can be said that Taekwondo is currently known as a Korean martial art that is in demand throughout the world. Taekwondo consists of three words, namely Tae = foot, Kwon = Hand, and Do = art or method. So if it is interpreted simply, Tae Kwon Do means martial art that uses foot techniques and bare hand techniques. The most popular Tae Kwon Do in the world is Sparring or Kyorugi. In taekwondo, athletes are taught to recognize discipline, the process of achieving something and of course emotional control. From the researcher's personal experience, when he was little, he used to feel upset to the people around since he felt that they did not understand his desires. This happened due to limited communication. Since he was 9 years old, he joined Tae Kwon Do, and since then he has become more patient.

There are several kick techniques in Tae Kwon Do, from the simplest to the most complicated ones. One of the techniques to be discussed is Momtong Yeop Chagi Kick Technique. Yeop Chagi technique is a skill that is intended to be able to kick the opponent's face or chest with the outer edge of the foot or heel that requires a balance from a taekwondo athlete. Sidekicks are usually done by turning a person's body to the side and at the same time bending and rewinding it to kick the target. In some circumstances, one can push with the foot to keep the distance from the opponent. Momtong is a chest target. Momtong Yeop Chagi technique is a side kick to the chest target. To master Yeop Chagi, one of the keys is balance. Balance depends on nerve signals from the three systems in the body: eyes, feet and inner ear. These nerve signals are sent to the brain, which helps humans to be upright. Therefore, when there is a problem with one of these three systems, then that will make us lose balance.

In Jakarta, there are many special needs schools. One of them is the Santi Rama *Sekolah Luar Biasa* (SLB) B which is a special school for the Deaf. This school was founded 48 years ago. It is the most complete SLB-B since it covers all the early childhood education level, elementary school, middle school and high school. Santi Rama SLB-B has some extracurricular activities, namely:

badminton, futsal, taekwondo, painting, IT and many more.

Taekwondo extracurricular at Santi Rama SLB-B was established in November 2004 under the Crystal Club with Sabeumnim Mamat as the head coach. The purpose of extracurricular activities at Santi Rama SLB-B is to channelize the hidden energy in deaf children, form self-confidence, help them form a sense of responsibility, help them become more patient, help them learn discipline and learn to respect other friends, parents and teachers. Indeed, the number of students who participate in the extracurricular always goes up and down. This is natural since extracurricular students are rarely prepared to compete. They participate in the Taekwondo extracurricular activities only to the extent of sports. However, since last year they have started participating in several festivals, and won several medals. From that point, now extracurricular enthusiasts are increasing in order to find achievements.

A. Definition of Deaf

Deafness is a condition of impaired hearing function. Some ways to communicate with deaf people are:

- Look for attention: It is important to get their attention if you intend to communicate with them. Touch them slowly to give a signal. A light pat of twice to thrice on their shoulder is enough to show your point.
- Align the face position: When you will start communicating, align your eyes. If they are sitting, you are also advised to sit down as well. Similarly, if they are standing, adjust your position. Make sure you are not too close to them, so they can see all of your body language. You also need to make sure that no shadow is blocking their vision, and they are not directly facing the sun. Visual clarity of your movements is the most important thing for them to be able to respond.
- Eye Contact: While talking to deaf people, do not let go of eye contact and concentration from them. Remove any barrier media that can interfere with communication links, such as masks or sunglasses. There is no harm in using facial expressions, so that they can understand the direction more easily.
- Speak normally: Avoid talking by whispering or amplifying your voice since it can make it difficult for them to read your lips. Conversely, speaking in a normal voice will make it easier for them. Also avoid talking while chewing or covering your mouth. Basically, provide as much convenience as possible for deaf people in order to understand the communication objectives that you want to convey.
- Choose a common topic of conversation: People with hearing impairments who are able to catch conversations through lip movements can only understand about 35 percent of what you are talking about. For the rest, they just guess at the topic of the ongoing conversation. Therefore, it is important to choose the general topic of conversation so that they

can easily capture the contents. You may pause a few times during conversations to ensure that they still understand the conversation.

- Use gesture: During speaking, you can use gestures, such as imitating the movements of people who are eating, drinking, running and so on. Make sure you don't do it too fast. Give pause a few moments before proceeding to the next gesture.
- Stay polite: Take care of your attitude to remain polite while talking to deaf people. For example, if suddenly your cell phone rings, give clear information if you want to answer it. On any occasion, do not ever make the deaf condition a joke.

B. Definition of Balance

According to Barrow & Mc Gee as quoted by Widiastuti, balance is the ability to maintain the neuromuscular system and static condition or control the neuromuscular system in an efficient position or posture while moving. Factors that affect balance include:

➤ Center of Mass or Center of Gravity

The center of gravity is in all objects on things; the center of gravity is located right in the middle of the object. The center of gravity is the main point in the body that will distribute body mass evenly. In humans, the center of gravity when standing upright is right above the waist between the front and back of the second sacrum vertebra.

➤ Line of Gravity

The line of gravity is an imaginary line that is vertical through the center of gravity with the center of the earth; the relationship between the line of gravity, the center of gravity and the fulcrum plane is to determine the degree of body stability.

Balance power consists of:

- Static balance, that is when it is done on a relatively silent object.
- Dynamic balance, that is when it is done in motion (when people are running, riding a bicycle). Dynamic balance is the ability of people to control their body consistently as long as they move.

During the Momtong Yeop Chagi kick, the balance position belongs to the good balance section in the stance position. Since the support of the attack is on one leg, athletes will always get a new balance in every change of motion that occurs. The factors that affect stability (body balance) are:

- 1) High center of gravity
- 2) Position of the heavy line,
- 3) Width of the support base,
- 4) Object mass,
- 5) Friction,
- 6) Position of body segments,
- 7) Vision and psychological factor, and
- 8) Physiological factor.

In addition, the knees are bent and the body is narrowed with the aim of reducing the area of the body, so that the body can perform momtong yeop chagi kick on lifting the knee, turning the hip into the knee in the abdomen and then being pushed aside and the balance can be achieved. Every individual has a different movement in this situation.

C. Definition of Concentration

The concentration of learning is concentration in the process of behavior change expressed in the form of mastery, use, and assessment of attitudes and values, basic knowledge and skills found in various fields of study.

In sports, especially sports achievements, there is a factor that is very instrumental in supporting or inhibiting the achievements of an athlete. These factors are attention and concentration. Concentration is a term that is very familiar to sportsmen, but in reality it is not easy to define the boundary of the definition. The attention level ability of sportsmen is one of the factors that support success in carrying out sport activities. In general, top sportsmen have the optimal ability and energy that can focus on directing their attention to the sports they carry out. Therefore, the activity of paying attention to an object is also a special skill for sportsmen, so that trainers and coaches of sports should be aware of the importance of skill to pay attention.

Such conditions have not seemed to be the focus of discussion in developing achievement sports until now since the tendency of trainers and sports coaches is still too focused on coaching that leads to technical skills and physical quality improvement, while guidance in the field of psychological potential is still neglected. Many sportsmen, both trainers and deaf poomsae athletes in Santi Rama SLB-B schools, still do not understand the boundaries between attention and concentration.

In fact, mistakes often occur in understanding attention and concentration. Attention and concentration are often interpreted the same whereas they have different definitions. Attention is a process of direct awareness of information (stimuli) that is received to decide an action (response). Meanwhile, concentration is the ability of a person to focus their attention on the chosen target (one object) in a certain time.

D. Definition of Taekwondo

Taekwondo is a Korean cultural heritage; it can be said that Taekwondo is now known as a Korean martial art that is in demand throughout the world. Taekwondo consists of three words, namely Tae = foot, Kwon = Hand, and Do = art or method. So if it is interpreted simply, Tae Kwon Do means martial arts that use foot techniques and bare hand techniques.

Taekwondo philosophy is the principles of human change and movement. This is also the principles of our lives since life consists of our movements. Therefore, we

can say that Taekwondo is the philosophy itself. We can understand the philosophy of Taekwondo by doing Taekwondo; and this understanding must lead to a better understanding and improvement of our lives. The Taekwondo principles can be explained in a number of ways, but here we will explain them only with the principle of "Sam Jae" [Three Elements] and that of "Eum" [Negative or Darkness] and "Yang" [Positive or Brightness]. "Sam Jae" refers to "Cheon" [Heaven], "Ji" [Earth], and "Di" [Man] and principles about them. In oriental countries, it has been recognized as a center of principle that explains change from everything in the world. "Sam Jae" and changes to "Eum" and "Yang" constitute "Eight Trigrams for Prediction" in "The Book of Change." Sam Jae principle has been emphasized in eastern countries, especially in Korea. If you understand the Taekwondo principle, you can understand all the skills and spiritual depth of Taekwondo. The Eum and Yang principles are also emphasized in oriental countries as the central principle of life. It maintains that everything has an opposite side. This principle explains various forms of change, but comes from "Taegeuk" [Great Absolute], which is the main claim that Eum and Yang are one and the same thing. If we understand Taekwondo according to this principle, we will find a solution, and by constantly changing skills, we will never be trapped, under any circumstances. After we understand these philosophical principles of Taekwondo, we can find the right way to understand and develop our lives.

WTF (World Taekwondo Federation) is a World Taekwondo Federation group which was officially established on May 28, 1973 with the President Kim Un Yong based in Kukkiwon (Seoul), South Korea. The WTF has an official national defense program between the police and the army. The WTF consists of more than 186 countries as quoted from the WTF document.

WTF's Taekwondo development in Indonesia in 1975 which brought this trend was Mauritsz Dominggus who came to Indonesia in 1972 in Tanjung Priok, North Jakarta. Taekwondo martial art has three important materials, namely poomsae (motion beauty technique), kyukpa (hard object breaking technique), and kyorugi (fighting technique). Basics of Taekwondo are formed from a combination of various attack and defense techniques that use body parts to deal with opponents. A technique consists of Seogi (Stance), Jireuji (Punch), Makki (Defense) and Chagi (Kick).

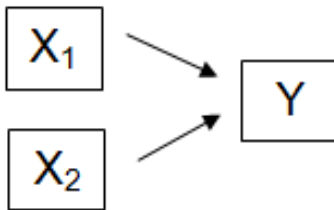
Poomsae is derived from the combination of two words from Poom and Sae. Poomsae is an important unit in the Taekwondo technical system. Poomsae is a combination of movements designed to train without an instructor, by using a fixed performance base from defensive attack. It requires training for a long time and requires high physical fitness. The physical aspects for Poomsae consist of: 1). Power, 2). Speed, 3). Accuracy, 4). Balance, 5). Endurance.

The Yeop chagi technique is the skill of kicking the opponent's face or chest with the outer edge of the foot or heel. Sidekicks are usually done by turning a person's body to the side and at the same time bending his knee and backing it to kick the target. In some circumstances, one can push with the foot to keep the distance from the opponent. For Poomsae, you can kick up straight or head target.

II. METHOD

This study uses explanatory survey method: research methods carried out in large and small populations, so that the description and relationships between variables are found.

In accordance with the hypotheses proposed by the researchers, in this study statistics will be used which is appropriate for the purpose of causal relationships. Although the discussion also contains a description, but as associative explanatory research, the focus of the research lies in the explanation of the relationships between variables. With the use of the methods and approaches mentioned above, the researchers made observations to obtain an overview between the two variables, namely:



- X₁ = Balance
- X₂ = Concentration
- Y = Momtong Yeop Chagi Kick

➤ *Research Instrument*

The instrument used to collect data in this study is to measure the variables contained in this study, including:

1. Balance test by standing with one leg and eyes closed
2. Momtong yeop chagi kick technique skill test
3. Concentration Grid Test

III. RESULTS OF THE STUDY

A. Description of Data

Description of data in this study: The relationship of balance (X₁) and concentration (X₂) to momtong yeop chagi kick (Y) in deaf poomsae taekwondo athletes at Santi Rama SLB-B school, the lowest data ratio (minimum), the highest value (maximum), the mean, the standard deviation and variance of each variable X₁, X₂, and Y. The followings are the complete data:

Variable	Balance	Concen-tration	Momtong Yeop Chagi Kick
Minimum	1	6	10
Maximum	22.64	21	24
Mean	6.709	13.03	17.152
Standard Deviation	5.669	3.548	4.139
Variance	-3.449	3.97	-121.5

Table 1:- Description of Research Data

➤ *Data of Balance*

The balance measurement results data are obtained from 2 to 29.71 to the mean of 6.7, the median of 5.05, the mode of 4.69, the standard deviation of 5.669 and the variance of -3.449, then the data are changed from T_{score} to the highest T_{score} 18.66 and the lowest T_{score} -3.449.

The following are the results of the balance of the right foot by lifting the left foot:

Variable	Balance
Minimum	1
Maximum	22.64
Mean	6.709
Standard Deviation	5.669
Variance	-3.449

Table 2:- Distribution of Balance Test Result

➤ *Data of Concentration*

The concentration measurement data are obtained from 3.00 to 14.00 to the mean of 3.548, median of 13, mode of 11, standard deviation of 15 and variance of 3.97, and then the data are converted from T_{score} to the highest T_{score} 21 and the lowest T_{score} -6.

The following table shows concentration test results:

Mean	13.03
Median	13
Mode	11
Range	15
Standard Deviation	3.548634
Variance	3.97

Table 3:- Concentration Test Result

➤ *Data of Momtong Yeop Chagi Kick*

The momtong yeop chagi test data are obtained from 4 to 20 to the mean of 4.139, median of 17, mode of 15, standard deviation of 14 and variance of 20, and then the data are changed from T_{score} to the highest T_{score} 24 and the lowest T_{score} 10.

Following are the results of the yeop chagi momtong kick test:

Mean	17.15
Median	17
Mode	15
Range	14
Standard Deviation	4.139
Variance	20

Table 3:- Test Result of Momtong Yeop Chagi Kick

B. Hypotheses Testing

➤ *The Relationship of Balance and Momtong Yeop Chagi Kick*

The relationship of balance towards momtong yeop chagi kick is expressed by the regression equation $Y = 17.661 + -0.0902 X_1$ which means that the momtong yeop chagi kick can be known or estimated towards the regression equation if the variable of balance is known.

The relationship of balance towards momtong yeop chagi kick is shown towards the correlation coefficient $r_{y1} = -0.0902$.

The results of the correlation coefficient test can be seen in the following table:

Correlation Coefficient	T _{count}	T _{table}
-0.090	-4.624	1.240

Table 4

From the significance test of the correlation coefficient above, it can be seen that $t_{count} = -4.624$ is smaller than $t_{table} = 1.240$ which means the correlation coefficient $r_{y1} = -0.090$ is significant. Thus the hypothesis which states that there is a relative relationship between the balance and the momtong yeop chagi kick is supported by the research data. The balance coefficient of determination in yeop chagi kick $r_{y1}^2 = -0.090$; this means that -9.0% momtong yeop chagi kick in poomsae taekwondo is not affected by balance.

➤ *The Relationship of Concentration and Momtong Yeop Chagi Kick*

The relationship of concentration towards the momtong yeop chagi kick is expressed by the regression equation $Y = 15.888 + 0.0909 X_2$, which means that the momtong yeop chagi kick can be known or estimated towards the regression equation if the variable of concentration is known. The relationship of concentration towards the momtong yeop chagi kick is shown towards the correlation coefficient $r_{y2} = 0.090$.

The test results of the correlation coefficient are seen in the following table:

Correlation Coefficient	T _{count}	T _{table}
0.090	0.362	1.240

Table 5

From the significance test of the correlation coefficient above, it can be seen that $t_{count} = 0.362$ is smaller than $t_{table} = 1.240$ which means the correlation coefficient $r_{y2} = 0.090$; this means 9.0%. Thus the hypothesis which states that there is a relative relationship between the concentration and the momtong yeop chagi kick is supported by the research data. The determination coefficient of concentration in yeop chagi kick $r_{y2}^2 = 0.090$. This does not mean that the yeop chagi kick in taekwondo poomsae is not influenced by concentration.

➤ *The Relationship of Balance and Concentration towards the Momtong Yeop Chagi Kick*

The relationship of balance and concentration to the yeop chagi kick is expressed by the regression equation of $\hat{Y} = 16,330 + -0,105 X_1 + 0,110 X_2$ the third relationship is expressed by $r_{y1-2} = 0.081$. The correlation coefficient must be tested in advance regarding its significance before being used for conclusions.

The results of the multiple correlation coefficients test can be seen in the following table:

From the significance test of the correlation coefficient above, it can be seen that $F_{count} = -2.900$ is smaller than $F_{table} = -10.34$, which means the correlation coefficient $r_{y1-2} = 0.081$ is insignificant. Thus the hypothesis stating that there is a negative relationship between balance and concentration together towards momtong yeop chagi kick is supported by the research data. The determination coefficient of balance and concentration in momtong yeop chagi kick $(r_{y1-2})^2 = 0.081$; this means that 8.1% of yeop chagi kick in taekwondo poomsae is connected by balance and concentration together.

IV. DISCUSSION

Based on the results of the research stated above, it is known that:

1. The relationship of balance and momtong yeop chagi kick has a low relationship as small as -9.0%
2. The relationship of concentration and momtong yeop chagi kick has a level of 9.0%.
3. The relationship between balance and concentration towards momtong yeop chagi kick has a level of 8.1.

The two variables above are only a part of the factors that influence a person's ability to perform a yeop chagi kick. Based on the results of the relationship of balance and concentration together towards momtong yeop chagi kick, it indicates that there are other factors of 2.7% which can affect a person's ability to perform a yeop chagi kick.

V. CONCLUSION

Based on the results of the study and data analysis, it can be concluded that:

- There is no relationship between balance and momtong yeop chagi kick on taekwondo deaf pomsae athletes at Santi Rama.
- There is a relationship between concentration and momtong yeop chagi kick on taekwondo deaf pomsae athletes at Santi Rama.
- There is a relationship between balance and concentration together towards momtong yeop chagi kick on taekwondo deaf pomsae athletes at Santi Rama.

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