How to Improve Drive Stroke Result in Squash Game?

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Keywords: Reaction Time, Coordination, Drive, Squash.

Abstract: The aim of this research is to test the relationship between time reaction and coordination with results of blow drive in squash game. This is a quantitative research using the correlational method of studies. Samples used in in research were 11 members of SME Squash UPI Bandung who were selected by using the purposive sampling technique. Instruments used was a whole body reaction time type II visual, ball-throwing test, and squash playing skills test (forehand drive and drive backhand). It shows that that there a significant relationship between time reaction and coordination with the blow drive results. In order to improve the results of blow drive in squash game, we should be more attentive and trained for it could improve the component of physical condition physical during time reaction and coordination as a support for results of drive blows mainly on blow drive forehand so results obtained more maximum.

1 INTRODUCTION

Skill is the ability to bring some end results with minimum of course and minimum outlay of energy, or of time and energy (Schmidt and Lee 2014). Skills in Sports should have some important components that can support them. The example is on Taekwondo, where some physical condition components are very important as the supporting skill. It has been observed that agility, balance, coordination, power, speed, and reaction time are very important and can be determinant in this sport (Ana et al., 2016). However this cannot always be equal to other sports. Every type of sports have different characteristics which means that the needs to support this skills will be a little or much different. One of the examples is the racket-type of sport, which needs some combination to improve quality skills. Racket sports require a combination of aerobic and anaerobic fitness, speed, power, agility, flexibility and strength, perception and action, technical skill, and awareness and control. Scientists have been able to comment on these qualities (Lees and Lees 2008). Speed motion in respond a stimulation or so-called as time reaction is very important on some branch of sport games especially racket-sport. Time reaction is one of important component of physical condition on sports.

Previous research demonstrated for players, the Go reaction time of higher-skill players was significantly shorter than that of lower-skill players (Kida et al. 2005). In racket sports, reaction time was considered to improve the performance of players. Reaction time may provide input for training programs aiming to improve badminton players' performance (Huijgen et al. 2017). Tennis athletes are required to have fast reaction times and explosive ''first step'' speed (Kovacs 2006). Previous research demonstrated that the vital importance of visual-motor coordination and reaction time in badminton (Wang et al. 2008, Yuan et al. 1995). Based on research that has been conducted about reaction times, this research wants to test time reaction on racket sport, especially in squash. Racket sports have also provided a vehicle for investigating fast interceptive actions, hand-eye coordination and perception-action coupling in the field of motor control (Lees and Lees 2008). The key to success in tennis is eye–hand coordination (Alparslan and Asuman 2013). The main results revealed motor coordination performance levels of the elite group were significantly higher than those of the club group (Sports 2017).

Research on badminton also shows that the ability to determine the coordination performance decides the performance of players. The level of sports

Palgunadhi, F., Muflih, M., Abdillah, H. and Imanudin, I.
How to Improve Drive Stroke Result in Squash Game?.
In *Proceedings of the 2nd International Conference on Sports Science, Health and Physical Education (ICSSHPE 2017) - Volume 1*, pages 503-506
ISBN: 978-989-758-317-9

performance of the studied badminton players was largely determined by the levels of somatic features, fitness and coordination abilities (Jaworski 2015). Based on what is already explained, the aim of this research is to text the relationship between time reaction and coordination with results of blow drive in squash game. Hypothesis on this research is that there is a relationship between time reaction and coordination with results of blow drive in squash game.

2 METHODS

The population in this study were 20 students of the Squash Student Activity Unit (UKM) University Of Education Indonesia (UPI), West Java Province, Indonesia. Using the purposive sampling, the sample set comprising a total of 11 people: 9 men and 2 women, aged 18-23 year-old, on 2014.

The research method used in this study is correlational research method. This research took place on May 13th, 2014. The research was conducted in two places, which were, the sports science laboratory of Faculty of Sport and Health Education (FPOK) UPI, as a place for test reaction time, and UPI squash sport hall for coordination test and drive squash blow skill test.

The instrument used was a whole body reaction time type II visual, as a tool for measuring reaction time, the tool aimed to measure the rate of body reaction in response to a visual stimulus, ball-throwing test that aimed to measure eye-hand coordination, and squash playing skill test drive as a tool for forehand and backhand drive. Processing was done by using statistic correlation and regression.

3 RESULTS AND DISCUSSION

3.1 Relationship between Time Reaction and Coordination with the Drive Blow Results

Table 1 shows time reaction with results of blow drive that has coefficient correlation 0.658 with sig value 0.028<0.05. Coordination of blow drive has coefficient 0.658 with sig value 0.028 < 0.05. Coordination with results of blow drive has coefficient correlation has 0.779 with value 0.028<0.05. Time reaction and coordination on together, with results of blow drive has coefficient correlation 0.784 with sig value 0.022 < 0.05. Time reaction with results of forehand blow drive has coefficient correlation 0.658 with sig value 0.028 < 0.05. Time reaction with results of backhand blow drive has coefficient correlation 0.626 with sig value 0.039 <0.05. Coordination with results of forehand blow drive has coefficient correlation 0.807 with sig value 0.003 <0.05. Coordination with results of backhand blow drive has coefficient correlation 0.719 with sig value 0.013 <0.05.

Squash rackets is a game played at a fast pace, … It is played between two, or occasionally four, players in an enclosed court of specified dimensions, using rackets similar to but smaller than a tennis racket, and with a hollow black rubber ball 15/8 in. in diameter and 3/4 oz. in weight (Hospital et al. n.d). Squash is a sport where speed and precision in putting the ball is something to be noticed well. Fast squash game requires players with fast responds the ball taken from opponent. The blow drive is one of the blows in squash game that needs reacting speed and accuracy in shot. The drive a hard-hit shot, either down the nearest wall or across court, with the aim of forcing your opponent to play his next shot, formed an awkward position in one of the rear corners of the court (Hawkey 1994). Speed in react owned by a player will give support to results of blow drive in squash game. It has been proven in this research that time reaction showed a significant relationship with results of blow-drive, so that the good the reaction is the better the results of blow drive in squash game is.

On the other hand, precision is also an important factor in blow drive. Accuracy in blow is a characteristic from a high skill techniques. Accuracy in blow is related to coordination. Good coordination of someone, could improve the results of accuracy in blow. It means that it could give support to the results of blow drive in squash game. It has been proven in this research where coordination shows a significant relationship with the results of blow drive. So that the higher a coordination level is, the better results of drive blow in squash game is.

Table 1: Coefficient correlation and significance.

No	Variable	Coefficient Correlation	Sig.
1	Reaction time with drive	-0.658	0.028 < 0.05
2	Coordination with drive	0.779	0.005 < 0.05
3	Reaction time and coordination together with drive	0.784	0.022 < 0.05

4	Reaction time with drive forehand	-0.658	0.028 < 0.05
5	Reaction time with drive backhand	-0.626	0.039 < 0.05
6	Coordination with drive forehand	0.807	0.003 < 0.05
7	Coordination with drive backhand	0.719	0.013 < 0.05

3.2 Differences in Reaction Time Support and Coordination Together against the Results of Drive Blow

Figure 1 shows the scale of physical condition component support (time reaction, coordination, and time reaction-coordination on the same time) towards the results of drive blow in squash game.

If seen from the scale of physical confition component support (time reaction, coordination, and reaction-coordination time on simultaneous time) towards the results of drive blow (fig. 1). The amount of support precentage on reaction-coordination time at the same time is bigger than the percentage of coordination, as well as, the percentage amount of coordination is more than the percentage of reaction time.

It means that the support of physical condition component of coordinated reaction time, and the reaction-coordination time at the same time is important to support the results of blow drive in squash game. Such condition also means that the higher the support of reaction and coordination time is, will affect the quality of drive blow in squash game.

Figure 1: Differences in supporting between reaction time, coordination, reaction-coordination time at the same time towards the result of drive blow.

3.3 Difference of Reaction Time Support, Coordination, towards the Forehand dan Drive Backhand Drive

Figure 2 shows the supporting scale of physical condition component (reaction time and coordination) towards the results of the results of forehand and backhand drive blow in squash game.

Data on figure 2 shows the tendency of percentage amount of reaction support towards forehand drive is better than backhand drive. Likewise, the tendency of percentage amount of support towards forehand drive is better than backhand drive.

This results can be interpreted that support of physical condition component of reaction-coordination time is highly required, especially to results of forehand drive blow versus the backhand drive in squash game. This result is alongside with the results stated in picture 1b, about the different support of reaction-coordination support towards the forehand and backhand drive, where the amount scale of support reaction-coordination time towards the backhand drive is smaller compared to forehand drive. This condition means that there are other components of physical condition supporting drives especially the backhand drive.

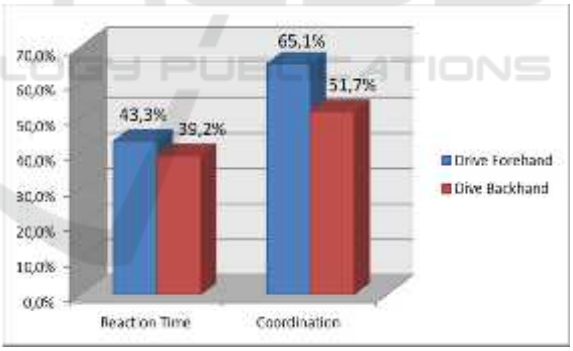

Figure 2: Difference of support on reaction and coordination time towards the forehand and backhand drives.

4 CONCLUSIONS

The component of reaction and coordination physical condition is proven important to support the results of drive blows, especially on forehand drive blow results in squash game. From the results of this research, it could be acknowledged that a player who wants to increase the result of drive blow in squash game should be more attentive and train in order to improve

the component of reaction and coordination time of physical condition, as a support towards the results of drive blows, especially in forehand drive blows so that the results obtained could be maximum. There is still some deficiency in this research, for example the amount and characteristics of samples. For that, it will be better if we continue to investigate and develop further, using larger number of samples and in-depth study. The research on other components of physical condition that could improve the blow drive, such as the wrist power, stabilization, and flexibility can also be done. Besides, volley, boast, lob, drop, and service can also be done in order to research other skills in squash.

ACKNOWLEDGEMENTS

This research is supported by the department of sport science, faculty of education and health, University Education of Indonesia. Author is thankful towards Iman Imanudin, S.Pd., M.Pd., Drs. Sumardiyanto, M.Pd., Drs. H. Aming Supriyatna, M.Pd., Agus Rusdiana, M.Sc., Ph.D., and Dr. Yunyun Yudiana, M.Pd. who has made it easier in the process of research.

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