

Effects of Intelligence Quotient, Emotional Quotient, and Motor Educability on Players Ability to Tact in Soccer Games

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Abstract

Soccer requires athletes to have complete equipment in a game situation. Not only physical, mental, and technical aspects, but tactics must also be considered. The purpose of this research is to analyze the effect of intelligence quotient, emotional quotient, and motor educability on the ability of players to perform soccer tactics. This research is a quantitative descriptive study, a sample of 30 people with a sampling technique using a purposive sampling technique — data analysis using SPSS 22 application program, multiple linear regression analysis techniques. The results of the study did not have a significant effect between intelligence quotient and emotional quotient, and there is a significant influence between emotional quotient with motor educability, there is a significant influence between intelligence quotient and motor educability, intelligence quotient does not have a significant effect on a player's ability to engage in soccer tactics, emotional quotient does not have a significant effect on a player's ability to do soccer tactics, motor educability has a significant effect on a player's ability to do soccer tactics, intelligence quotient, emotional quotient, motor educability have a significant influence on the ability of players to do soccer tactics.

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INTRODUCTION

Soccer is a team game played by two teams, each team consisting of eleven players, including a goalkeeper, according to Sucipto (Subagyo, 2011). Luxbacher (Mukhtarudin, 2017) said that soccer is a national sport almost known in all countries. The game may be done with all parts of the body except with both arms (hands). When viewed from the development of soccer in Indonesia, in fact, the game of soccer is very popular with the people of Indonesia.

Modern soccer requires athletes to have complete equipment in playing soccer. Not only physical excellence, technique, tactics, and mentality must also be good to support performance when competing. As we see in European soccer, the movement of players is very dynamic, supported by techniques and playing skills that are qualified, and also do not miss playing tactics that they can demonstrate perfectly.

In general, experts accept the notion of intelligence as ordinary people use the term. Azwar (2012) the general public knows intelligence as a term that describes intelligent, smart, or the ability to solve the problems they face. One expert who sparked about intelligence is Carter (2011) explains: intelligence can be defined as the ability to gain knowledge and understanding and use it in different situations. A good person's intelligence allows being able to assess the components that need to be done to support future success in terms of cognitive and motor skills, according to Rusli Lutan (1988). Logically, if a person cannot play a game well, then the child, in general, has not developed the ability of his intelligence. Suranto (Fazari, 2017) intelligence or intelligence is an important factor that often determines victory in sports matches.

It is not enough for a soccer player to only have intellectual intelligence. Soccer players must also have good emotional intelligence. Goleman (Asep, 2016) said that emotional intelligence is a person's ability to control every activity or upheaval of thoughts, feelings, passions, any mental state that is great or overflowing based on a healthy mind. Another source, Goleman

(Nugraha, 2017) said that "increasing emotional intelligence by developing an attitude of self-respect, respect for others, developing a warm feeling and courage so that it can support success. In the final of the 2006 World Cup, Zinedine Zidane committed an emotional act to gore Marco Materazzi, which earned him a red card, and failed to offer the world cup trophy for his country, meaning emotional intelligence also played an important role in soccer.

The ability to learn basic motion in English is also called motor educability, which means that a person's ability to learn the new movement Nurhasan (Candra, 2015). One's motor educability will affect other abilities in carrying out motion activities. For example, the ability to walk, run, jump, or manipulative activities such as throwing, kicking, catching, and so forth. The ability to learn one's movements also facilitates the mastery of complex movements of a sport. For example, an athlete who participates in soccer is expected to be able to have good soccer tactics if he also has good learning skills. In other words, kinesthetic intelligence can be said to be a talent that influences the success of exercise (Lesmana, 2018).

The issue of improving achievement, scientific research needs to be held on various efforts to improve achievement and scientific guidance supported by different related scientific disciplines continuously and systematically. In this way, it is expected to find athletes who can excel at national and international levels. Sukatamsi (1984) to improve and achieve the highest achievements, athletes must have four main features, namely technical or skill development, physical development (physical fitness), tactics development (mental, memory, intelligence), champion maturity.

One effort to improve the achievements of the soccer branch includes coaching in the tactics or strategy aspects of the match. Maybe so far, the four main completeness can only be achieved with planned training and competition, carried out continuously. Yudiana, and Subroto (Ridwan, 2017) define "One of the problems solving that places students as the center in the process of making decisions about what they

want to do (tactical awareness) and how to do it. Of course, to become a complete soccer athlete is not only enough to master soccer techniques, but understanding and mastery of tactics must also be possessed because it is undeniable that the game of soccer requires players to keep moving dynamically without any clash of roles while on the field. Therefore a soccer player who does not master the tactics or strategy of playing the ball properly is not likely to be a good player. As is well known that to be a good soccer player, various playing tactics contained in the game of soccer such as attack tactics, defense tactics, group tactics, individual tactics, and common tactics must be mastered. Also, not only enough to practice mastery of skills, the understanding of tactics is very supportive, but in obtaining good training results, other factors that are no less important are intelligence quotient, emotional quotient, and motor educability.

Because good intelligence, emotional quotient, and motor educability will make athletes quickly understand the commands and carry out the tasks given by the coach from the tactics given. For this reason, researchers analyzed these factors to determine their effect on the ability to carry out soccer tactics.

METHODS

This type of research is quantitative research with descriptive methods that aim to describe, or describe something, for example, circumstance, condition, situations, events. Taking this type of research method is following the explanation of descriptive research, according to Sugiyono (2012) which says that descriptive problem formulation is a problem formulation regarding the question of the existence of an independent variable, either only on one or more variables (independent variables).

Budiwanto (2014) population is the whole subject or source of data that is the center of attention of researchers in the form of people, objects, events with the same characteristics or characteristics. The population is the entire subject in the study (Arikunto, 2010) the population in this study is the SSB soccer player

Garuda Muda Majenang, which numbered 70 people.

Arikunto (2006) sample is "part or representative of the population under study." The samples in this study were all 30 SSB Garuda Muda Majenang KU-17 players, who were obtained by purposive sampling technique. Sugiyono (2015) purposive sampling technique is a sampling technique based on specific goals and considerations.

The independent variables in this study are intelligence quotient, emotional quotient, and motor educability, while the dependent variable in this study is the ability to do soccer tactics. The instrument used in this study was the measurement of intelligence quotient by using the APM (Advanced Progressive Matrix) test, a questionnaire to measure emotional quotient and the Iowa Brace Test to measure the motor educability of players. Whereas the ability to perform soccer tactics is measured using a GPAI (Game Performance Assessment Instrument) test.

The analysis prerequisite test data collection technique with the normality test is intended to find out that the sample comes from normally distributed populations. Testing data normality with SPSS is done by applying the Kolmogorov Smirnov technique (Candiasa, 2010) which is assisted with the application of the computer program SPSS 22 ANOVA with a significant level $\alpha = 0.05$. Furthermore, the homogeneity test is intended to show that two or more sample groups come from populations that have the same variance.

The data analysis technique used to test the hypothesis of this study is by using multiple linear regression analysis to analyze the magnitude of the relationship and the influence of independent variables that number more than two.

RESULTS AND DISCUSSION

This study aims to determine the results of the influence of intelligence quotient, emotional quotient, and motor educability on the ability of players to do tactics in soccer games. This research was conducted to analyze the effect of

intelligence quotient, emotional quotient, and motor educability on the ability of players to do tactics in soccer games. Before the data analysis technique is performed using the SPSS version 22 application program, in this study, several prerequisite tests must be performed, namely the data normality test and the multicollinearity test.

Based on the data normality test carried out using SPSS version 22 application assistance, the Sig. Normality test using the Kolmogorov-Smirnov method of 0.439. Because the p-value is more significant than alpha ($0.439 > 0.05$), it can be concluded that the residual data are normally

distributed. While the multicollinearity test was found that the VIF value of each independent variable is below 10, namely intelligence quotient (X_1) = 1.228, emotional quotient (X_2) = 1.480 and motor educability (X_3) = 1.748. Based on these results, it can be concluded that there is no multicollinearity between independent variables in the model.

After normality testing and multicollinearity testing, the next step is to test the hypothesis. The research hypothesis test was carried out using the application SPSS version 22. Hypothesis test results can be seen in table 1.

Table 1. Hypothesis Test Results

Hypothesis	Variable	t _{value}	sign	t _{table}	value
H ₁	X ₁ to X ₂	0.467	<	2.048	0.088
H ₂	X ₂ to X ₃	3.492	>	2.048	0.551
H ₃	X ₁ to X ₃	2.311	>	2.048	0.400
H ₄	X ₁ to Y	0.180	<	2.056	0.858
H ₅	X ₂ to Y	1.803	<	2.056	0.83
H ₆	X ₃ to Y	3.688	>	2.056	0.01
H ₇	X ₁ X ₂ X ₃ to Y	13.756	>	2.975	0.05

The first hypothesis test in table 1 shows that the significance value of the influence of intelligence quotient on limb emotional quotient obtained a significance value of 0.088 and obtained a t_{value} = 0.467 and t_{table} = 2.048. Because t_{value} < t_{table}, then H₀ is accepted, and H₁ is rejected, meaning that intelligence quotient (X₁) does not have a significant effect on emotional quotient (X₂).

The second hypothesis test in table 1 shows that the significance value of the influence of emotional quotient on motor educability obtained a significance value of 0.551, and t_{value} = 3.492 and t_{table} = 2.048. Because the value of t_{value} > t_{table}, then H₀ is rejected, and H₁ is accepted, meaning that the emotional quotient (X₂) has a significant effect on motor educability (X₃).

The third hypothesis test in table 1 shows that the significance value of intelligence quotient on motor educability obtained a significance value of 0.400 and t_{value} = 2.311 and t_{table} = 2.048 table. Because t_{value} > t_{table}, then H₀ is rejected, and H₁ is accepted, meaning that intelligence quotient (X₁) has a significant effect on motor educability (X₃).

The fourth hypothesis test in table 1 shows that the significance value of intelligence quotient

on the ability to do soccer tactics obtained a significance value of 0.858 and obtained a t_{value} for the intelligence quotient variable (X₁) of 0.180 and t_{table} = 2.056. Because t_{value} < t_{table}, H₀ is accepted and H₁ is rejected, meaning Intelligence Quotient (X₁) has no significant effect on the ability to do soccer tactics (Y).

The fifth hypothesis test in table 1 shows that the influence of emotional quotient on the ability to do soccer tactics obtained a significance value of 0.83 and obtained a t_{value} for the emotional quotient variable (X₂) = 1.803 and t_{table} = 2.056. Because t_{value} < t_{table}, then H₀ is accepted and H₁ is rejected, meaning that emotional quotient (X₂) does not significantly influence the ability to do soccer tactics (Y).

The sixth hypothesis test in table 1 shows that the significance value of the influence between motor educability on the ability to do soccer tactics obtained a significance value of 0.01 and obtained a t_{value} for the motor educability (X₃) = 3.688 and t_{table} = 2.056. Because t_{value} > t_{table}, then H₀ is rejected and H₁ is accepted, meaning motor educability (X₃) significantly influences the ability to do soccer tactics (Y).

The seventh hypothesis test in table 1 shows that the significance value of the influence

between intelligence quotient, emotional quotient, and motor educability on the ability to do soccer tactics 0.05 and obtained $F_{\text{value}} = 13.756 > F_{\text{table}} = 2.975$. So H_0 is rejected, meaning that intelligence quotient (X_1), emotional quotient (X_2), and motor educability (X_3) have a significant effect on the ability to do soccer tactics (Y).

Intelligence quotient, emotional quotient, and motor educability are factors that support athlete performance, such as the ability to do soccer tactics. Even so, the results of the study concluded that intelligence quotient does not have a significant effect on the ability to do soccer tactics. Likewise, emotional quotient does not have a significant influence on the ability to do soccer tactics. These results are consistent with Yuli Anggraeni's research, said that intelligence quotient and emotional quotient exercises had no relationship with PON-XVIII martial arts athlete performance with H_0 values higher than 0.05. While the results of motor educability research, have a significant effect on the ability to do soccer tactics. This result is following Rachmat Sujana's research the high motor educability group is better than the low motor educability group on the results of basic technical skills and soccer playing skills.

The results of the Ftest or simultaneous test stated together, intelligence quotient, emotional quotient, and motor educability have a significant influence on the ability to do soccer tactics. This result is following the theory put forward by Sukatamsi (1984) stating that to improve and achieve the highest achievements, and athletes must have four main features, namely technical or skill development, physical development (physical fitness), tactics development (mental, memory power), intelligence), champion's maturity. This means that to foster athletes, not only physical factors are considered, but non-physical factors must also be considered so that the physical and non-physical development of athletes will run simultaneously to support the performance of playing soccer.

CONCLUSION

Based on the results of the analysis and discussion above, the conclusions of this study are as follows: there is no significant effect between intelligence quotient on emotional quotient, there is a significant influence between emotional quotient on motor educability, there is a significant influence between intelligence quotient on motor educability, there is no significant influence between intelligence quotient on the ability to do soccer tactics, there is no significant effect between emotional quotient on the ability to do soccer tactics, there is a significant influence between motor educability on the ability to do soccer tactics, there is a significant influence between intelligence quotient, emotional quotient and motor educability for the ability to do soccer tactics.

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