

Analysis of Motivation and Self-Confidence in Swimming Athletes Aged 13 – 17 Years: How Does it Influence the 50 Meter Freestyle?

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Abstract

The aim of this research is to analyze the influence of motivation and self-confidence of swimming athletes on the results of the 50 meter freestyle. This research is descriptive quantitative with a correlational approach. The sample for this research was selected through purposive sampling, so that the athletes involved were athletes who had won at the provincial level. A total of 32 athletes aged 13 – 17 years, athlete characteristics (mean \pm SD), age 16.03 ± 3.6 years, training experience 6.8 ± 7.8 years, competition involvement in 1 year is 2 - 4 times. The instrument uses a questionnaire and a 50 meter swimming test which is then recorded based on the best time. The data shows a normal distribution and the linearity test is carried out through the F test (p -value > 0.05) which explains the influence between motivation and self-confidence and the results of the 50 meter freestyle swimming which are declared linear. Correlation results show that there is a positive and significant relationship between motivation and self-confidence on the results of the 50 meter freestyle swimming $0.000 < 0.05$. The coefficient of determination shows that the influence of motivation and self-confidence on freestyle swimming results is ($R^2 = 0.877$) or 87.7%. The conclusion is the importance of psychological factors such as motivation and self-confidence in achieving good results in swimming. These results can serve as a guide for coaches and athletes to strengthen motivation and build self-confidence which in turn can improve performance and achieve better results in swimming competitions.

Keywords: Swimming, Sports Psychology, Athlete Performance.

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INTRODUCTION

One branch of water sports that is quite popular and much in demand by Indonesian people is swimming. There are four styles of swimming that are contested, namely freestyle, backstroke, breaststroke, butterfly. The style that is competed in swimming, freestyle is the fastest and easiest style to learn (Rusmayani & Dewi, 2023). In freestyle swimming, swimmers generally use the crawl style, because the crawl style is the fastest and most efficient of all swimming styles ((Saifu *et al.*, 2021), (Apriani *et al.*, 2023)). Individuals who can do the crawl style will gain an advantage because of the large number of numbers in the competition. Freestyle swimming or often called crawl style is the basic swimming that a swimming athlete must master. The 50 meter and 100 meter freestyle swimming competitions are the swimming competition numbers that many swimming athletes participate in.

The rapid development in swimming has encouraged many athletes to compete for excellence. The factors that can support the achievement of maximum performance in swimming are physical, tactical, technical and mental conditions (Overbury *et al.*, 2023), (Cui & Wang, 2023). These factors are capital for an athlete to become a superior athlete and be able to achieve peak performance in the field of sport they are involved in. An achievement can be achieved if a swimming athlete has mastered several factors that support achievement, one of which is mental factors (Ferraz *et al.*, 2021), (P. Diaz & F. Diaz, 2021), (Selian *et al.*, 2023).

The mental elements that coaches need to pay attention to as basic capital to achieve maximum performance are achievement motivation and self-confidence (Wijayanti *et al.*, 2024). Achievement motivation is capital in achieving goals or targets. Through high achievement motivation, the hope of

success is not impossible for an athlete (Mandan *et al.*, 2024). Achievement motivation is a person's drive to succeed or succeed in competition, with a measure of excellence in the form of other people's achievements and previous achievements. Achievement motivation is very important for athletes to have, because athletes who have high achievement motivation will always try hard to achieve maximum performance. Athletes who have achievement motivation will always improve their abilities to be better than before (Juita *et al.*, 2024).

Apart from achievement motivation, another psychological factor that coaches need to pay attention to to achieve maximum performance is self-confidence (Mitchell *et al.*, 2021). Self-confidence is an aspect of personality that an athlete in any sport absolutely must have, because it is related to confidence. Confidence means thinking, being active, aggressive in approaching problem solving and not being separated from environmental situations that support it (Rastovski *et al.*, 2023). Responsible for decisions that have been taken, able to view facts and reality objectively based on abilities and skills.

Based on the results of observations at the Tirta Alvita Swimming Club in February 2024, several problems were found, including that during training there were still many athletes who were not good at freestyle swimming due to poor technique. There are still athletes who do not experience an increase in time, the target of best freestyle swimming time is difficult to achieve. Based on data from coaches, the average best time swimming speed still does not meet expectations. As a comparison, the best time for the 50 meter freestyle swimming in the men's category at PON Papua 2021 was 23.28 seconds and in the women's category it was achieved with a time of 26.29 seconds. PON is the National Sports Week, a multi-event championship which is held every four years in Indonesia (Anugrah *et al.*, 2023). In addition, it is difficult for athletes to develop their potential because athletes do not know the psychological aspects that need to be improved about themselves. This observation location was chosen because in the last few years, student-aged athletes from the Tirta Alvita Swimming Club were able to achieve achievements in provincial championships in Yogyakarta Province.

Then from the results of unstructured interviews with 10 athletes, there were 30% of athletes who had good self-confidence, and 70% of athletes who were less confident in swimming freestyle. Researchers also made observations regarding the achievement motivation of Tirta Alvita Swimming Club athletes, the results showed that there were 7 athletes who had quite good motivation, but during training they were unable to show sincerity, such as there were still athletes who came to practice not on time and still liked to chat with friends when the trainer gives an explanation. Based on this, researchers are interested in conducting research on the topic 'the

relationship between motivation and self-confidence on the results of 50 meter freestyle swimming at the age of 13 - 17 years'.

METHOD

Study Design

This type of research is quantitative descriptive with a correlational approach. Correlational research is a type of research that looks at the relationship between one or several changes and one or several other changes. The first stage of this research procedure is problem identification through observation at the swimming club. The second stage is collecting evidence based on literature review and forming an instrument to collect data. The third stage is data collection, data collection time is carried out for one week in the afternoon. The fourth stage is to prepare a report by analyzing it in the form of scientific work.

Study Participants

The population in this study was swimming athletes at the Tirta Alvita Swimming Club, totaling 49 athletes. The sampling technique uses purposive sampling. The criteria are, willing to be a sample, having been a champion at the provincial level, being an active athlete, filling out a complete questionnaire and taking the test according to schedule, and not being sick. Based on this, there were 32 athletes aged 13 – 17 years. Athlete characteristics (mean \pm SD) are age 16.03 ± 3.6 years, training experience 6.8 ± 7.8 years, competition involvement in 1 year is 2-4 times.

Instrument

This research instrument is in the form of a questionnaire or questionnaire for the variables of achievement motivation and self-confidence. The instrument grid for achievement motivation has 6 dimensions, namely responsibility, risk in selecting tasks, creative innovation, feedback, task completion time, and having realistic goals. Meanwhile, the self-confidence instrument grid contains 5 dimensions, namely optimistic, independent, Sportsman-like, Not Worrisome, Self-Adaptable.

Then, the 50 meter freestyle swimming achievement instrument was measured using a psychomotor test. Assessment is carried out by looking at the movements carried out, either basic movements or movements carried out creatively. The freestyle swimming test is measured by swimming 50 meters freestyle in a 50 meter swimming pool. Swimming time is measured using a stopwatch in seconds. The stopwatch used is a time measuring instrument with an accuracy of 0.01 seconds, which is calibrated.

Data Analysis

The analysis technique uses normality and linearity tests. Hypothesis testing uses partial t test and simultaneous F test. In the multiple linear regression model, the contribution of the independent variables

together to the dependent variable can be determined by looking at the total coefficient of determination (R^2). This research analysis software uses SPSS 26.

RESULT

Normality Test

This normality test uses the Kolmogorof-Smirnov test, namely the significance value of the residual variable if the value is above 0.05, then it can be said that the data is normally distributed. A summary of the data is presented in table 1 below:

Table 1: Normality Test Results

		Studentized Deleted Residual
<i>N</i>		32
Normal Parameters ^a	Mean	0,0400196
	Std. Deviation	1,12904788
Most Extreme Differences	Absolute	0,158
	Positive	0,158
	Negative	-0,092
Kolmogorov-Smirnov Z		0,893
Asymp. Sig. (2-tailed)		0,403

Based on the statistical analysis of the normality test which was carried out using the Kolmogorov-Smirnov Test in table 1, the Asymp value was obtained. Sig. (2-tailed) is 0.403 > 0.05, which means the data is normally distributed.

Uji Linearitas

Linearity testing is carried out through the F test. The relationship between the independent variable (X) and the dependent variable (Y) is declared linear if the sig value is > 0.05. The results of the linearity test can be seen in table 2 below.

Table 2: Linearity Test Results

Functional Relationships	<i>p</i>	<i>Sig.</i>
X1—>Y	0,182	0,05
X2—>Y	0,354	0,05

Based on table 2 above, it can be seen that the relationship between freestyle swimming achievement (Y) and achievement motivation (X1) and freestyle swimming achievement (Y) with self-confidence (X2) is with p-value > 0.05. So, the relationship between the independent variable and the dependent variable is stated to be linear.

Hypothesis Testing

The first hypothesis to be tested explains "There is a significant relationship between achievement motivation and 50 meter freestyle swimming achievement". The results of the analysis are explained in table 3 as follows:

Table 3: Results of the Influence of Motivation on 50 Meter Freestyle Swimming

Hubungan	r hitung	r tabel (df 32 - 1)	sig
X1—>Y	0,924	0,344	0,000

Based on table 3 above, it shows that the correlation coefficient of achievement motivation on freestyle swimming achievement obtained a calculated r value of - 0.924 and a p-value of 0.000 < 0.05, so H_0 is rejected, meaning H_1 which reads "There is a significant relationship between achievement motivation and "Athletes' 50 meter freestyle swimming achievements" are accepted. The correlation coefficient is positive, meaning that if the achievement motivation is higher, the freestyle swimming performance will be better.

The second hypothesis that will be tested explains "There is a significant relationship between self-confidence and the freestyle swimming performance of athletes swimming in the 50 meter freestyle". The results of the analysis are explained in table 4 as follows:

Table 4: Results of the Influence of Self-Confidence on 50 Meter Freestyle Swimming

Hubungan	r hitung	r tabel (df 32 - 1)	sig
X2—>Y	0,892	0,344	0,000

Based on table 4 above, it shows that the correlation coefficient of self-confidence with freestyle swimming achievement obtained a calculated r value of -0.892, and a p-value of 0.026 < 0.05, so H_0 is rejected, meaning H_2 which reads "There is a significant relationship between self-confidence on the freestyle swimming achievements of swimming athletes at the Tirta Alvita Swimming Club" was accepted. The correlation coefficient is positive, meaning that the higher your self-confidence, the better your freestyle swimming performance will be.

The third hypothesis test reads "There is a significant relationship between achievement motivation and self-confidence regarding 50 meter freestyle swimming achievement". The analysis results in table 5 are as follows:

Table 5: Results of the Influence of Motivation and Self-Confidence on 50 Meter Freestyle Swimming

Model	df	F	Sig
Regression	2	103,510	0,000
Residual	29		
Total	31		

Based on table 5 above, the calculated F value is 103.510 > F table (df 2;29) 3.33, while the p-value is 0.000 < 0.05, so H_0 is rejected, meaning H_3 which reads "There is a significant relationship between achievement motivation and trust. self towards the freestyle swimming achievements of swimming athletes at Tirta Alvita Swimming Club", accepted.

The next analysis by analyzing the Coefficient Determination (R^2) is essentially used to measure how

far the regression model's ability to explain variations in the dependent variable:

Table 6: Coefficient Determination Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std, Error of the Estimate
1	0,936	0,877	0,868	0,36222

The coefficient of determination shows an R Square value of 0.877. This means that 87.70% of the variation in freestyle swimming performance can be explained by variations in the independent variables, namely achievement motivation and self-confidence. The remaining 12.30% is explained by causes other than the model, for example technique, physicality and talent.

DISCUSSION

Based on the research results, it shows that there is a significant relationship between achievement motivation and freestyle swimming achievements of swimming athletes at Tirta Alvita Swimming Club, namely 57.86%. These results are in line with research Kurniawan & Winarno (2022) who explained that motivation had an impact on the 50 meter swimming results of 21 athletes in addition to arm muscle strength and leg muscle strength. Other similar research results occurred in the 50 meter butterfly style event for 31 students. These results explain that motivation can directly influence butterfly learning outcomes by 58.37% (Yusuf *et al.*, 2022).

This finding is in line with the theory that achievement motivation is a person's desire to complete a difficult task or the drive to overcome obstacles and maintain high quality work, as well as compete through efforts to exceed past actions or outperform others (Prayoga *et al.*, 2024). Achievement motivation is a drive that exists in a person that is related to achievement, which has the characteristics of controlling, manipulating, managing the social and physical environment, overcoming obstacles, and maintaining high quality work, competing through efforts to exceed his/her actions, past and surpassing the actions of others (Junior *et al.*, 2021). Achievement motivation is very important for athletes to have, because athletes who have high achievement motivation will always try hard to achieve maximum performance. Athletes who have achievement motivation will always improve their abilities to be better than before. Individuals who have high achievement motivation have a tendency to do things better when compared to other individuals, so there is real competition (Chan *et al.*, 2023).

Based on the research results, it shows that there is a significant relationship between self-confidence and the freestyle swimming performance of athletes at Tirta Alvita Swimming Club, namely 29.84%. The results of this research can be explained by the results of research by Supriyanto (2020) shows that democratic

authoritarian parenting, social support, self-confidence play a direct, positive and significant role in swimming athletes' achievements and there is a significant role of democratic authoritarian parenting, social support, self-confidence in swimming athletes' achievements through the mediator of achievement motivation. Research conducted by Sin (2019) shows that there is a significant relationship between self-confidence and athletes' ability to swim the 50 meter breaststroke. Confidence is very necessary, one of which is in the 50 meter breaststroke swimming sport. If the athlete has confidence, the athlete will be able to swim the 50 meter breaststroke perfectly without feeling anxious (Sabila *et al.*, 2022).

Athletes with a high level of self-confidence have a tendency to have high achievement motivation, as well as respondents with a low level of self-confidence will have a tendency to have low achievement motivation (Rintaugu *et al.*, 2023). This can be explained through the results of a literature review by Kartikasari *et al.*, (2023) regarding the psychological aspect which explains that self-confidence is an attitude or feeling of confidence in one's own abilities, so that the person concerned is not too anxious about his actions, can feel free to do things he likes and is responsible for his actions, is warm and polite in interacting with people and have a drive to achieve.

Self-confidence has a positive impact on concentration, if self-confidence is high then it is easier for athletes to focus their attention without worrying too much about things that will hinder their action plans, positive impact on strategy, if self-confidence is high athletes will tend to try to develop strategies to get the results of his hard work (Sridana *et al.*, 2024). Several methods for developing athletes' self-confidence, especially in competitions, are to revive memories of previous successes, to recall the efforts that have been made to achieve success in the past, which means the efforts that have been made, so that they can repeat them again, without worrying too much about mistakes what you have done that can result in self-judgment, always trust your own abilities (Rusdi & Lauh, 2022), (May *et al.*, 2024).

Based on the research results, it shows that there is a significant relationship between achievement motivation and self-confidence in the freestyle swimming achievements of swimming athletes at Tirta Alvita Swimming Club, namely 87.70%. Research conducted by Pratama (2019) shows that motivation and self-confidence really influence the achievements of

football athletes, this is proven by a significance value of 0.000. Motivation and self-confidence can also influence the abilities of basketball athletes at the high school level (Rinaldy *et al.*, 2022). In addition, from combat sports, achievement motivation and self-confidence influence karate athletes during kumite (Dunan & Sulistiandari, 2023). The results of this research can be explained, that confident athletes are confident in their own abilities and have realistic expectations. With self-confidence, it is hoped that swimmers will be more motivated and more active in practicing. Swimmers who have high self-confidence are more successful in carrying out the basic swimming start techniques that are trained. Apart from self-confidence, motivation is a mental aspect that influences a person's ability to perform swimming movements.

CONCLUSION

Motivation and self-confidence can have a positive and significant influence on the performance of athletes swimming in the 50 meter freestyle. This shows the importance of psychological factors such as motivation and self-confidence in achieving good results in swimming. These results can be a guide for coaches and athletes to improve performance in 50 meter freestyle swimming by paying attention to and increasing athlete motivation and self-confidence. By strengthening motivation and building self-confidence, athletes can improve their performance and achieve better results in 50 meter freestyle swimming competitions. Apart from that, swimming athletes at a young age who have achieved achievements can become stronger drivers when the athlete enters the senior level. It is hoped that future research can combine mixed methods so that motivation and self-confidence variables on swimming athletes' performance results can be analyzed more comprehensively. Apart from that, it is also important to involve theories other than psychology such as service quality, organization, talent identification, nutritional status, coach competency on swimming athletes' achievements.

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