

Self-Efficacy as Predictor in Controlling Anxiety of Badminton Athletes

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Abstract— Studies on self-efficacy and anxiety have been carried out in various sports. But there has been no study linking these two variables to badminton. This study aims to examine the strength of the effect of self-efficacy in controlling anxiety of badminton athletes. The method used is A retrospective causal-comparative design, also called ex-post facto research. The population of this research are 47 badminton athletes with a range of 18 to 20 years of age. The instrument used is a self-efficacy scale specifically designed for this study and Competitive Scale Anxiety Inventory-2 (CSAI-2) adopted from Martens, Vealey, and Smith. Data analysis technique uses simple linier regression test. The results showed that self-efficacy can act as a predictor for controlling anxiety ($p = 0.024$). In other words, badminton athletes who have high self-efficacy are increasingly able to control their anxiety.

Keywords—*self-efficacy, controlling anxiety, badminton athletes*

I. INTRODUCTION

Researchers [1] acknowledge that the preparation of the psychological conditions of the athletes before competing is considered important for the athlete's success during the match. There are several psychological factors that determine the success of an athlete during a match namely, controlling anxiety [2, 3], and self-efficacy [4, 5]. Lately, sports psychology studies have almost highlighted the preparation of self-efficacy in an effort to improve athletes' performance during the competition. As expressed by [6] that preparation of mental toughness and self-efficacy is considered important to improve athletic performance.

Nonetheless, there is very little research on self-efficacy in badminton. Research on self-efficacy has only been studied in the past three decades [7]. Whereas self-efficacy is a determining factor in controlling anxiety experienced by athletes during a match [8, 9]. According to [10] that athletes from individual sports, namely golfers often experience extreme levels of anxiety and therefore can reduce their performance during the match. The opinion of [10] without exception also describes the psychological condition of athletes from other individual sports such as badminton.

In Achievement Goal Theory (AGT), it is stated that the anxiety experienced by each individual depends on its orientation [11, 12]. There are two orientations: orientation to the ego and orientation to the task [11, 12]. According to [12], athletes who are oriented towards the ego are more anxious

than the orientation of the task. The psychological dynamics of the task orientation are in accordance with the process of enhancing individual self-efficacy in the explanation of Social Learning Theory (SLT) introduced by Bandura. According to [13] and [14], high self-efficacy of an athlete is very dependent on the orientation of studying his experience in completing his task in the past.

On the subject of this, it can be said that there is a process of psychological dynamics which theoretically illustrates the existence of a link between self-efficacy as a predictor in controlling an athlete's anxiety when facing a match situation.

II. METHOD

This study uses a retrospective causal-comparative design research design which is commonly called ex-post facto research. That is, this study was conducted to determine the self-efficacy and control of anxiety inherent in badminton athletes.

A. Participants

Forty-seven badminton athletes aged 18 to 20 years-old from PB Djarum Kudus.

B. Instruments

1) Self-efficacy.

Special self-efficacy instruments for badminton athletes have been constructed by researchers. Researchers construct a self-efficacy scale referring to Bandura's social learning theory. According to [13, 15], self-efficacy consists of three dimensions, namely strength, level, and generality. In this study, researchers used two dimensions to see the strength and level of badminton athletes [9, 14, 16]. Both dimensions (strength and level) contain several components of badminton techniques namely, service punches, service returns, netting, long service, lob punches, drop punches, and smashes. The construct results of this self-efficacy scale have fulfilled the requirements of content validity using Gregory (0.9), reliability (0.948) with total item scores of (0.226 - 0.766).

2) Anxiety control.

Anxiety control instrument, namely Competitive Scale Anxiety Inventory-2 (CSAI-2), was adapted from [17]. Anxiety control scale consists of three aspects, namely somatic anxiety, cognitive anxiety, and self-confidence [17]. Even so, in this study there is no aspect of self-confidence included because all

items in the aspect are dropped after being subjected to the object of the study. After all items from the aspect of self-confidence are aborted, the reliability level of CSAI-2 becomes 0.802.

C. Analysis technique

The analysis technique used to test the hypothesis in this study is the correlation analysis technique of Pearson with a significance value below alpha ($p < 0.05$) and a simple linear regression analysis technique ($p < 0.05$).

III. RESULTS

TABLE I. DESCRIPTIVE DATA ON STATISTICAL SELF-EFFICACY AND ANXIETY CONTROL

Statistic	Self-Efficacy	Anxiety Control
Mean	289.212	28.36
Std. Deviation	46.78	5.95
Minimum	115	16
Maximum	381	47

Table 1 shows the average value of self-efficacy ($m = 289.212$) with standard deviation ($SD = 46.78$) while for anxiety control variables ($m = 28.36$, $SD = 5.95$). The minimum-maximum range of self-efficacy and anxiety is 115-381 and 16-47.

TABLE II. PERSON CORRELATION COEFFICIENT

Variable	Correlation	Sig
Self-efficacy	-0.329	0.012
Anxiety control		

Table 2 results of the correlation test of Pearson found that there was a negative relationship between self-efficacy and anxiety control ($p = 0.012$) and ($r = -0.332$). That is, if self-efficacy is high, anxiety can be controlled by badminton athletes.

TABLE III. SIMPLE LINIER REGRESSION ANALYSIS TEST

Model	Sum of Squares	Mean Square	F	Sig
Regression	177.038	177.038	5.472	0.024
Residual	32.351	32.351		

Table 3 simple linear regression analysis test shows the significance value is smaller than alpha (< 0.05) so it can be concluded that self-efficacy predicts badminton athletes to control their anxiety. Predictive contribution of self-efficacy variables to anxiety control can be seen from the value ($F = 5.472$); Mean square = 177.038; $p = 0.024$; R square = 32.351). Because R square = 32.351, thus it can be interpreted that self-efficacy only contributes 32.35% to anxiety control and 67.65% in the contribution of other variables not examined in this study.

TABLE IV. SIMPLE LINIER REGRESSION COEFFICIENT

Model	Unstandardized Coefficients		Standard Coefficients	T
	B	Std. Error	Beta	
(Constant)	40.490	5.251		7.712
Self-Efficacy	-0.042	0.018	-0.329	2.339

*) Anxiety controlling

In table 4, the constant t value is 7.712 and self-efficacy of -2.39. The simple linear regression equation obtained is $Y = 40.490 + (-0.042X)$. The analysis also found that the significance value of the self-efficacy variable ($p = 0.024$) was smaller than alpha (< 0.05). Therefore, self-efficacy can be used as a predictor of anxiety control for badminton athletes.

The results of simple linear regression analysis show that self-efficacy can be a predictor in the anxiety control of athletes. That is, the hypothesis in this study was accepted. The results of this study reinforce the results of previous studies, such as [16, 18, 19]. The findings of [19] are almost the same as this study that self-efficacy predicts the control of athlete's anxiety in aspects of somatic and cognitive anxiety. However, a number of previous studies have not described how far the power of self-efficacy predicts anxiety control specifically for athletes from badminton.

IV. DISCUSION

As stated in the results of the research above, the value of R square = 32.35, self-efficacy only contributes to the control of anxiety of badminton athletes by 32.35%. That is, there are 67.65% of other variables not examined in this study. Besides self-efficacy served as a predictor variable in controlling athletes anxiety, there are other variables such as motivation and mental toughness [3], the driving force of parents who are task-oriented in athletes [2, 20], and self-esteem [20] that participates in predicting anxiety control of athletes. So, controlling anxiety is not only caused by the strength factor of self-efficacy, but also caused by several other psychological factors.

The results of this study also strengthen the Achievement Goal Theory (AGT) and Social Learning Theory (SLT) that there is a psychological dynamics between self-efficacy as a predictor in controlling athlete's anxiety. In AGT's explanation that if an athlete's anxiety is caused by an orientation on the task, then the anxiety symptoms he experiences are more effectively minimized than the orientation on the ego [12]. The process of controlling the anxiety of an athlete who is task-oriented can be throughly increasing the self-efficacy of an athlete [19, 21].

V. CONCLUSION

Based on these findings, it can be concluded that self-efficacy can serve as a predictor variable in anxiety control of badminton athletes ($p < 0.05$). The contribution of self-efficacy in predicting anxiety control of badminton athletes is 32, 35%

and 67.65% is predicted by other variables that were not examined in this study. The impact of this research can be used as an additional reference for sports psychology experts, badminton coaches, badminton associations, and the government as policy makers.

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