The Effect of Motivation, Anxiety and Self-Efficacy on Student Achievement

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Article Info

Abstract

This study aimed to determine the effect of motivation, anxiety, and self-efficacy on student achievement in a tennis course. This research uses quantitative research methods; the type is verification research, the verification method uses the relationship between the independent and dependent variables. This research was conducted on the 5th-semester students of the 2018/2019 academic year who took tennis courses. The instrument consists of tests and non-tests, tests carried out at the end of the course, non-tests consisting of questionnaires. The data analysis technique used is a descriptive data analysis technique, followed by classical assumption tests, namely normality and linearity tests, followed by verification techniques to find the effect of the three independent variables on the dependent variable. Based on the data processing and analysis results, it can be concluded that there is an effect of motivation, anxiety, and self-efficacy on achievement.

INTRODUCTION

Tennis is a sport that requires both physical and mental health. Tennis is a very popular and favoured sport among the Indonesian people. The demand for tennis courts in Indonesia continues to grow in lockstep with the growing public interest in tennis, which spans children, adolescents, and adults. Everyone who participates in tennis activities does so for various reasons; some seek entertainment and physical fitness, while others are more serious and wish to enter the world of tennis as an athlete. Tennis is a globally popular sport (Asterios, Stella & Dimitrios, 2013). Tennis developed in Indonesia and was introduced by Dutch colonialists. It has continued to expand fast in Indonesia to the present day. Tennis is administered in Indonesia by the All-Indonesian Tennis Association (PELTI).

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Tennis is a fun game, but it is vital to develop skills and improve (Coakley & others, 2007). Tennis courts are necessary to have fundamental abilities, including the fundamental skills required of anyone who wishes to play tennis, namely holding a racket, positioning a player's attitude, and serving a hand properly and backhand strokes, both groundstroke and volleyball. These four characteristics are critical for a tennis player to possess for the game to operate smoothly and, of course, with maximum outcomes. The four fundamental methods require continual training to become accustomed to and master them.

Everyone who participates in activities, particularly students, wants to be the best at whatever subject they teach, including tennis (Blegur & Mae, 2018). Numerous elements contribute to an individual's success, including motivation (Blegur & Mae, 2018, Putra, 2020). Motivation is a critical characteristic that underpins a person's ability to engage in directed activities, as someone with strong motivation may exert control over the activity he is engaged in (Gillison, Osborn, Standage, Skevington, 2009). While competitiveness, pleasure, and difficulties are all factors that contribute to a person's motivation to participate in sports (Kilpatrick, Hebert, Bartholomew, 2005), other people exercise for the sole purpose of maintaining a healthy and fit body (Abdulaiz, Dharmawan, Princess, 2016).

Motivation is generally classified into intrinsic and extrinsic motivation (Jarvis, 2005). As a result, it is critical for an educator working in sports to understand each student's motivation. Educators, both lecturers and teachers, must cultivate two types of motivation: intrinsic and extrinsic motivation. While intrinsic motivation is typically challenging to change shortly, extrinsic motivation can be rapidly altered in response to environmental stimuli. Intrinsic motivation typically originates as a result of a solid internal drive. This occurs due to students' desire to excel in the courses they study. Internal characteristics that significantly impact tennis players' success include their personalities, attitudes, hopes, and aspirations. Of course, we can distinguish a player who practices with a high level of internal drive; he will conduct his training differently than someone who lacks strong desires to achieve the maximum level of achievement; he trains solely to perform his responsibilities.

External elements that significantly impact a tennis player's game include a positive environment, leadership, and coaching. Considering the gravity of the situation when teaching tennis courses at Physical Education of Universitas Siliwangi, each class is divided into groups for practice; these external elements are quite influential. If a person is in a conducive learning atmosphere, he or she will be swept away by others who are zealous about excelling in these areas. Thus, it must be recognized that the environment significantly influences a player in achieving his objectives.

Tennis requires high motivation during training and competition (Blegur & Mae, 2018). Motivation is a person's capacity for performing and acting with a strong drive. A player's strong motivation will dictate how determined he can reach that goal (Jarvis, 2005). Apart from motivation, another critical factor in participating in sports is anxiety. Anxiety is a psychological factor that must be managed in order for a player to do his duty with ease. Why is it necessary for someone to exert control over it? Because anxiety plays a significant role in every game (Rohmansyah, 2017). If it cannot be controlled, the player's anxiety level may worsen during the game.

In general, anxiety is a negative emotion that begins with apprehension and low self-esteem and progresses to self-doubt (Weinberg & Gould, 2014). Anxiety is classified into state anxiety and trait anxiety (Weinberg & Gould, 2014). State anxiety occurs suddenly and without warning; for example, a tennis player will experience this type of anxiety if the environment changes. Normally, a person practicing tennis can control his emotions, but a sense of deep concern arises when assessment tests are administered. The term "symptoms of anxiety" in the state anxiety category refers to.

In contrast to trait anxiety, this anxiety is inherent and is an existing character of a person. For example, a person may have a sensation of worry when confronted with a graduation exam. This anxiety is a chronic condition. Both of these concerns must be addressed by the trainer and the lecturer in his or her capacity as a teacher. This is because nervousness can impair his performance on the court.

Numerous studies indicate that anxiousness is the psychological component that can affect a person's performance in a match (Ardiansyah, 2014). Uncontrolled nervousness will hinder a person's performance since his appearance will be less than optimal. We interpret certain events as psychological
symptoms that are disturbed when the player cannot control a portion of his psyche. For example, an athlete who has been in a training centre for a year may fail if they experience symptoms of high anxiety due to the match’s high pressure. He rarely made his errors, which resulted in him losing his concentration and missing the opportunity to win the title.

However, not all anxiety symptoms are negative because anxiety at a controlled level can perform at its best in every match. For example, an athlete’s vigilance when competing against an opponent whose strengths are well-known can have a positive effect if the athlete can control his emotions, allowing him to execute strategic strategies to defeat his opponent; this is an example of anxiety at a controlled level. A player must possess mental toughness when confronted with any match or test in order for the match to proceed well (Omar-Fauzee, Saputra, Samad, Gheimi, Asmuni, Johar, 2012). This mental fortitude is one of the characteristics that can help a person’s anxiety level decrease during a good match (Omar-Fauzee, Saputra, Samad, Gheimi, Asmuni, Johar, 2012)

For instance, an athlete with a high level of mental toughness who possesses a positive attitude, demeanour, and capacity to control emotions can approach each match calmly, allowing the player to recognize and control any worry that may arise. This is why self-management in terms of emotion regulation is critical in every game or test. Even during a match or test, severe anxiety will occur if someone feels unprepared for the match. Inadequate preparation and training will result in frustration for the athlete when confronted with the contest. In addition to other variables that can affect anxiety, such as the difficulty of an event or test performed by a player, the more frequently you perform a test or match, the greater the anxiety (Maulana & Khairani, 2017). As a coach or teacher of prospective physical education teachers, it is necessary to research this psychological factor to serve as an example of how to control this anxiety without impairing the matches being played.

Several reasons why a potential physical education teacher needs to learn emotional situations such as these are so that when coaching his pupils in each match, he can ultimately motivate them to win the championship. We can only imagine how a supervisor who cannot control his nervousness will teach his students how to regulate their emotions, which is why students must grasp how to exercise effective emotional control during each match they participate in.

Along with these two elements, self-efficacy is a significant factor. Self-efficacy is a state of confidence in one’s ability to accomplish something. As stated previously, self-efficacy is a person’s belief in accomplishing something (Bandura, Freeman, Lightsey, 1999). The experience of mastering something is one factor that can boost self-efficacy (Ramdhani, Rahman, Nurlan, 2020). The experience of mastering something is critical, which means that the player should have a high level of experience in any game or test that requires much energy. As a result, it is critical to managing self-efficacy well to maximize a player’s achievements. The factors mentioned previously, beginning with motivation, anxiety, and self-efficacy, must be a concern for prospective physical education teacher students in order for them to apply how to manage the three when guiding each student who will compete in tight situations. This is because all three have a significant impact on a player’s or athlete's performance.

While some research on the psychological components of tennis has focused on two or one psychological aspects, this study examined three psychological aspects, including motivation, anxiety, and self-efficacy, to acquire more detailed results. Psychological influences on the playing of tennis.

**METHOD**

The study employs quantitative research methods. The data collected in numbers were analyzed to determine the effect of motivation, anxiety, and self-efficacy on students enrolled in tennis classes. While this is verification research, the verification method makes use of the relationship between the independent and dependent variables (Sugiyono, 2010); according to Narimawati (2008), the verification method is a method for testing hypotheses using statistical analysis tools; and the verification method is a type of research that aims to ascertain the truth. In the realm of study design, the hypothesis that is tested by data gathering is as follows:
This study examined semester five students from 2018/2019 who took tennis classes at West Java's universities. The instrument is composed of tests and non-tests; tests are administered after the course to assess student achievement in test subjects; non-tests are questionnaires that assess motivation, anxiety, and self-efficacy. Attention, relatedness, self-confidence, and satisfaction are the indications of motivational questionnaires. The anxiety questionnaire includes questions about physical and psychological anxiety, whereas the self-efficacy questionnaire includes questions about action and coping self-efficacy. Before usage, all instruments have been validated.

The population of this study was semester five students of the academic year of 2018/2019. Sampling was carried out using the slovin formula, obtaining a total sample of 50 people from two classes. This is based on the fact that the ability in the courses is almost evenly distributed so that every sample in the population can be sampled in the study. The data analysis technique used is the descriptive data analysis technique, followed by the classical assumption test, namely normality and linearity tests, followed by verification techniques to find the effect of the three independent variables on the dependent variable.

The research technique begins with instrument preparation, continues with the learning process in the tennis course, and concludes with a test after the course. Before conducting the final test, a questionnaire was distributed to determine the three independent factors evaluated for their effect on the dependent variable.

FINDINGS AND DISCUSSION

The study’s results aimed to find the effect of three independent variables with one dependent variable. The independent variables referred to in this study are motivation (X1), anxiety (X2), self-efficacy (X3) towards the achievement (Y). Respondents used in this study as many as 50 people. Data processing begins with descriptive statistics for the three independent variables and one dependent variable. The result can be described as table 1:
Table 1. Descriptive Statistic

<table>
<thead>
<tr>
<th></th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>39.46</td>
<td>37.46</td>
<td>39.48</td>
<td>87.1</td>
</tr>
<tr>
<td>Max Score</td>
<td>47</td>
<td>46</td>
<td>45</td>
<td>95</td>
</tr>
<tr>
<td>Min Score</td>
<td>32</td>
<td>29</td>
<td>31</td>
<td>69</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2.8</td>
<td>3.44</td>
<td>3.26</td>
<td>4.10</td>
</tr>
</tbody>
</table>

According to the table, self-efficacy has the most significant average of the three independent variables, while anxiety has the lowest. Additionally, anxiety is a psychological factor frequently encountered by 5th-semester students taking tennis classes. While the average score for the achievement tests administered after the lecture is 87.1, this average indicates that students performed well on tests and obtained appropriate criteria; some students have scores below 70. This indicates a need for assistance to increase their achievements through peer tutoring. The data analysis continues with the regression test’s classic assumption test, specifically the normalcy test. The normality test employs the Shapiro Wilk test; if the significance value is more significant than 0.05, the data distribution is normal; if it is less than 0.05, the data distribution is not normal. The normality test yields the following results:

Table 2. Normality Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Significance Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>0.130</td>
</tr>
<tr>
<td>X2</td>
<td>0.601</td>
</tr>
<tr>
<td>X3</td>
<td>0.201</td>
</tr>
<tr>
<td>Y</td>
<td>0.232</td>
</tr>
</tbody>
</table>

Based on these data, it can be seen that the significance value of the four variables > 0.05 for the motivation variable (X1), anxiety (X2), self-efficacy (X3) achievement (Y), thus it can be concluded that the four variables are motivation (X1), anxiety (X2), self-efficacy (X3) achievement (Y) has a normal distribution of data. Therefore, the research deserves to be tested by regression to find its effect. The next step is to do a linearity test as the second requirement in the regression test, the condition of the linearity test is that if the significance value is <0.05, then it is linear, the meaning of linear is that the three independent variables have a direct relationship with the dependent variable. The results of the linearity test are as follows:

Table 3. Linearity test

<table>
<thead>
<tr>
<th>Significance Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linearity Test</td>
</tr>
<tr>
<td>0.023</td>
</tr>
</tbody>
</table>

These results illustrate that the three independent variables, namely motivation (X1), anxiety (X2), self-efficacy (X3), are in line with the dependent variable, namely achievement (Y). Unidirectional in that if the three independent variables increase, the achievement also increases. On the other hand, if the independent variable decreases, student achievement also decreases. The next step is a regression test for each variable associated with the dependent variable. The test criteria are if the significance value is <0.05, then there is an effect of the independent variable on the dependent variable, and vice versa if >0.05, then the independent variable does not affect the dependent variable. The results are as follows:
Table 4. Regression Test and Regression Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Significance Value</th>
<th>Regression Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 → Y</td>
<td>0.023</td>
<td>( \hat{Y} = 68.551 + 0.047X1 )</td>
</tr>
<tr>
<td>X2 → Y</td>
<td>0.000</td>
<td>( \hat{Y} = 64.351 + 0.607X2 )</td>
</tr>
<tr>
<td>X3 → Y</td>
<td>0.001</td>
<td>( \hat{Y} = 64.084 + 0.583X3 )</td>
</tr>
<tr>
<td>X1, X2, X3 → Y</td>
<td>0.002</td>
<td>( \hat{Y} = 63.788 + 0.096X1 + 0.853X2 + 0.315X3 )</td>
</tr>
</tbody>
</table>

Based on the table of data analysis results, it can be seen that the significance value of the three variables has a significance value of <0.05. These results illustrate that motivation (X1), anxiety (X2), self-efficacy (X3) influence achievement (Y). Because of this research, motivation is an essential factor in a person's success in achieving his achievements (Unierzyski, 2003) (van de Pol & Kavussanu, 2011 Garyfallos, Asterios, Stella, Dimitrios, 2013). In addition, motivation needs to be known that if a person's motivation is not recognized either by himself or by others, it affects the talent he has (Unierzyski, 2003), so it is not surprising that a person’s motivation in exercising can contribute around 25-30% of his success in exercising (Dimyati, 2003). Having motivation is encouragement from someone to do something; because of these factors and encouragement, someone will do something according to their target. This is very important because this target will make someone active and train hard to achieve maximum achievement (Holden et al., 2017) (Garyfallos, Garyfallos, Asterios, Stella, Dimitrios, 2013).

Regression analysis can also reveal how much influence the independent variable has if it increases by one unit, for example, the motivational regression equation on achievement. \( \hat{Y} = 68.551 + 0.047X1 \). The meaning of the regression equation is that if the motivation value increases by one unit, the learning achievement increases by 0.047 times. From the data analysis from all variables, anxiety or anxiety has a strong influence compared to others; namely, if students can control their anxiety, achievement increases by 0.607 times. Then another regression equation.

\[
\hat{Y} = 64.351 + 0.607X2
\]

This means that if anxiety decreases by 0.607, then achievement can increase by 0.607, then the third regression equation.

\[
\hat{Y} = 64.084 + 0.583X3
\]

This means that if self-efficacy has increased by one unit, the achievement has increased by 0.583, then the regression equation of the three variables.

\[
\hat{Y} = 63.788 + 0.096X1 + 0.853X2 + 0.315X3
\]

The regression equation means that if motivation increases by one unit, achievement increases by 0.0961, then in terms of anxiety, achievement increases by 0.8532 and achievement self-efficacy increases by 0.315. Through the results of this study, it is clear that the three psychological factors significantly influence student achievement.

Anxiety is a psychological symptom that has a significant impact on a person, mainly a player or athlete; anxiety that is not adequately managed can impair a person's ability to perform specific tasks, including during a match; if the player cannot control his anxiety, the player's performance will suffer. (Craft Magyar, Becker, Feltz, 2003); (Putri P.S., 2017). Motivation (X1), anxiety (X2), and self-efficacy (X3) are all factors that contribute to achievement (Y); the player will eventually have the ability to control himself so that worry does not arise as a result of the self-management supplied by the supervisor. The benefit of coaching is that there is frequently someone available to participate in formal matches to practice controlling his anxieties. (Hanin, 2010).
Anxiety is critical for someone about to take an exam or even a match. This is because if the nervousness is not controlled, it will impair the player’s attention and result in excessive worry and anxiety, preventing the person from performing the test flawlessly. (Rohmansyah, 2017). Correlation and determination tests were used to determine the amount of the link. In contrast, determination tests determined the percentage of independent factors that affected the dependent. The following are the findings:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation coefficient</th>
<th>Coefficient of Determination (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 → Y</td>
<td>0.321</td>
<td>10.3</td>
</tr>
<tr>
<td>X2 → Y</td>
<td>0.510</td>
<td>26.1</td>
</tr>
<tr>
<td>X3 → Y</td>
<td>0.464</td>
<td>21.5</td>
</tr>
<tr>
<td>X1, X2, X3 → Y</td>
<td>0.520</td>
<td>27.1</td>
</tr>
</tbody>
</table>

According to these data, the influence of the three independent variables, motivation (X1), anxiety (X2), and self-efficacy (X3) on achievement (Y), is 0.520 on moderate criteria. In contrast, the percentage of independent variables motivation (X1), anxiety (X2), and self-efficacy (X3) on achievement (Y) is 27.1 per cent. These findings demonstrate that other variables can influence students' achievement in a given field. This additional element might be a starting point for additional research to better understand of the psychological aspects affecting student progress. Self-efficacy is a psychological construct that refers to a person’s belief in his or her ability to perform something. The more trust individuals have in you, the more likely they will do successfully in their activities. (Chase, 2001, Hepler & Chase, 2008), correctly controlled self-confidence can affect an athlete's achievement or look. While anxiety is the most influential factor in this study, two additional components, anxiety and self-efficacy, also affect one's accomplishment. (Garyfallos, A stereos, Stella, & Dimitrios 2013, Hepler & Chase, 2008)

CONCLUSION

Based on the data processing and analysis, it can be determined that motivation (X1), anxiety (X2), and self-efficacy (X3) all affect achievement (Y). Anxiety (anxiety) had the most significant effect on achievement among the three independent variables, with a 21.5 per cent percentage influence on achievement. Through this study, physical education students should develop an awareness of the need to maintain control of these three variables, as motivation (X1), anxiety (X2), and self-efficacy (X3) all have a substantial effect on achievement (Y). The limitations of this study include the measuring of only three psychological characteristics: motivation, anxiety, and self-efficacy; additional research should be conducted on psychological factors other than those examined in this study and courses other than tennis.

REFERENCES


