

**Regression Equation Model of Motivation, Self-Confidence, and Anxiety Variables in Mastering Badminton Games Learning Outcome Test****Yady Supriyatna¹, Nurlan Kusmaedi¹, Yusuf Hidayat¹, Burhan Hambali²**Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Indonesia¹Prodi Pendidikan Jasmani Kesehatan dan Rekreasi, Universitas Pendidikan Indonesia, Indonesia²**Article Info***Article History :**Received July 2019**Revised August 2019**Accepted August 2019**Available online September 2019**Keywords :**Anxiety, Badminton, Motivation, Self-Confidence***Abstrak**

Tujuan Penelitian ini bertujuan untuk menguji model persamaan regresi variabel motivasi, kepercayaan diri, dan kecemasan dalam penguasaan hasil belajar bermain bulu-tangkis. Metode penelitian yang digunakan dalam penelitian ini adalah descriptive ko-relasional dengan jumlah partisipan sebanyak 100 siswa sekolah bulutangkis berumur 11-15 tahun. Penelitian dilakukan pada siswa-siswi sekolah bulutangkis yang ada di kota Bandung. Instrumen yang digunakan dalam penelitian ini adalah skala motivasi, skala kepercayaan diri, skala kecemasan dan tes hasil belajar bermain bulutangkis Data yang diperoleh dianalisis dengan menggunakan metode regresi dengan menggunakan analisis regresi ganda yang dibantu dengan software analisis statistic SPSS for windows versi 21. Hasil penelitian menunjukkan bahwa motivasi, kepercayaan diri dan kecemasan memberikan dampak yang signifikan terhadap hasil belajar keterampilan dasar bulutangkis.

Abstract

The study was aimed at testing the models of variable regression equations of motivation, self-confidence, and anxiety in the mastery of badminton learning outcomes. The method used in this research was the correlational descriptive method involving 100 badminton school students aged 11-15 years as participants. The research was conducted in the Badminton schools in Bandung City. The instruments used in this study were motivational scales, confidence scales, anxiety scales, and Badminton learning test outcomes. The data obtained were analyzed by using regression method with double regression analysis employing SPSS statistic analysis software for Windows version 21. The results showed that motivation, confidence, and anxiety had a significant impact on the basic learning outcomes of badminton.

INTRODUCTION

Traditionally, coach and athlete focus their effort on physical coaching. However, as the time goes by, technical, tactical, and practical aspects gain a critical role (Dosil, 2008). Since applied sport psychology has not reached an equal development with other fields dedicated for education and research, new approach is needed to meet the athlete and people in sport need, thus the collaboration of the psychological expert in club and team is possible (Dosil, 2008).

Motivation has become a central topic in sport psychology for the last few years according to Weiner in (Spray, Wang, Biddle, & Chatzisarantis, 2006), understanding and improving motivation is a field of psychological research that is popular nowadays in sport and coaching psychology (Tenenbaum Gershon & Robert C. Eklund, 2013). Teachers and coaches could teach how to use self-talk in order to improve self-confidence and movement ability to the athletes (Hidayat & Budiman, 2014). Badminton games requires physical ability, but in the real practice physical ability is not enough, the mental aspects such as self-confidence, motivation, anxiety, solidarity, aggressiveness, and so many more are necessary (Subarjah & Hidayat, 2010). Motivation process can be defined by psychological construction that gives energy, direct, and control the achievement behavior (Tenenbaum Gershon & Robert C. Eklund, 2013).

Self-confidence is the fundamental aspect of a person to achieve an accomplishment. A person who has a self-confidence is able to and believe that they could achieve the goals they set. Self-confidence is a fundamental aspect to move forward, since the accomplishment of a maximum achievement should be started by a belief that they could reach beyond their previous achievement (Gunarsa, 1989).

Badminton player is a player who is popular among people, this game is played by two person or more by stroking a shuttlecock so that it does not fall in the own field. The research of Fadillah (2014) argues that self-confidence contributes to the result of fundamental skill of the player through anxiety level for about 52,6%. Anxiety is defined as a fear and pressure caused by the environment or expectation of the surroundings that is related with desire (Khodayari, 2011).

Moran (2005) explains anxiety as: An emotional condition that is characterized by fear, the feeling of fear and/or stress that tends to happen without the existence of the real threat. Previous research still have a lack in motivation, self-confidence, anxiety on the badminton game fundamental skill, therefore this study was aimed to find out the effect of motivation, self-confidence, and anxiety on badminton fundamental skill.

METHODS

Design of The Study

The purpose of this study was mainly to examine the motivation and anxiety variability contributing to the badminton learning outcome. Therefore, to solve the problem in the research, the researcher chose to use descriptive correlational study as the design of the study. In general, the main reason of the use of descriptive correlational study was to arrange a description of relationship among motivation, self-confidence, and anxiety on badminton learning outcome.

Participants

Participants of this study were the students of badminton schools in Bandung, consisting of Badminton School of FPOK, KOTAB, and SGS PLN that involved 100 students with 1 inclusive criteria. The age of the student was 11-15 years, the period of training was 1 to 2 years, the sex of the students were male and female. The students consisted of 84 male students and 15 female students. The participants were taken by using purposive sampling with the assumption that the participants were chosen based on the inclusive criteria that had been formulated by the researcher.

Data Collection Technique

There are three instruments used in this research to measure each independent variable and an instrument to measure a dependent variable. The instruments include : (1) Motivation Scale, (2) Self-confidence Scale, (3) Anxiety Scale, (4) Fundamental Badminton Skill Test. The instrument to measure the scale of motivation that was used is motivation scale developed by (Li, Kawabata, & Zhang, 2016). The instrument consisted of 18 items that includes six subscales measuring motiva-

tion, external regulation, introjection regulation, identified regulation, integrated regulation, intrinsic motivation. Correlation coefficient intra class was 0,70 to 0.89 (Li et al., 2016).

The instrument used to measure self-confidence was self-confidence scale developed by Hidayat (2016). The development of the scale is based on the multi-dimension self-confidence model constructed by Vealey dan Knight (2002) that is integrated into the conceptual self-confidence model in sport (Vealey & Chase, 2008), consisting of three dimensions including (1) cognitive efficiency (2) physical skill and training (3) resilience.

The result of the factor analysis test found 35 valid item with the value of loading factor ranged from 0,52 to 0,82, consisted of 14 items of cognitive efficiency dimension (loading factor 0,50 to 0,81), 8 item of physical skill and training dimension (loading factor 0,55 to 0,85), and 13 items from resilience dimension (loading factor 0.50 to 0.76). Meanwhile the reliability analysis result using internal consistency reliability Cronbach alpha obtained reliability value 0,90, cognitive efficiency 0,75, physical skill and training dimension 0,71, and resilience dimension 0,78 (Hidayat, 2016).

The instrument to measure the anxiety level was Sport Anxiety Scale-2 developed by (Ramis, Viladrich, Sousa, & Jannes, 2015). Similar with the Sport Anxiety Scale-1, Sport Anxiety Scale-2 consisted of 15 item s developed based on three dimensions including (1) somatic anxiety, (2) worry and (3) concentration disruption. The validity test used confirmatory factor analysis (CFA) and the reliability test used cronbach alpha. The internal consistency was assessed for each subscale for each subsample. Alpha Cronbach coefficient was 0,73 to 0,89, and the inter-item correlation was 0,31 to 0,61 (Smith, Smoll, Cumming, & Grossbard, 2006 ; Ramis, Viladrich, Sousa, & Jannes, 2015).

The badminton fundamental skill learning outcome is the ability that is performed during badminton fundamental skill test in sub-test high service and defense lob measured by the number of accurate strokes and shuttlecock falls in the target area 0, 1, 2, and 3. Each item was conducted 12 times, 6 times from right side and left side of one fourth of the square of the

field. The score of the badminton fundamental skill test is gained from the average of the three test items did by the students. The higher the score gained, the higher the success shown, and vice versa. The instrument to measure the badminton skill was adapted from the test developed by Hidayat (2016) with validity index that is related to the criteria is 0,74 and the test-retest reliability is 0,90. The trial analysis related to this research results in validity index estimation related to the criteria is 0,70 and the reliability estimation of tes-retest is 0,81 (Hidayat, 2016), besides that the high service test gained reliability tes-retest 0,94. The trial analysis related to the research results in reliability estimation test-retest 0,81. Meanwhile, the validity with the criteria gained validity value 0,70. Every athlete did 12 times of clear lob-BS stroke, six times from the half of left and right side measured by the number of success (Hidayat, 2016).

Data Analysis

All of the data analysis were conducted by using statistical techniques including descriptive statistics (Mean, Standard Deviation, and percentage) and inferential statistics with Simple Regression Analysis and Multiple Regression Analysis. The regression analysis technique was used to predict the value of dependent variable according to the other independent variables (Uyanto, 2006). Other opinion related to the regression analysis technique is Sugiyono (2010) who states that “regression analysis is used to predict how far the dependent variable value changes, if the independent variable is manipulated or changed”. The regression model that was used in this research is : $\hat{Y} = a + bx_1 + bx_2 + bx_3$ for analyzing multiple regression (Ali, 2011). All of the analysis employed the statistical analysis software SPSS (Statistical Package for Social Science) for windows version 21.

RESULT

Descriptive Statistics

Statistic descriptive is an initial depiction of the analysis result presented in this research, the statistics parameter presented as the initial depiction were Mean and Standard Deviation of each group. The following is the result of the descriptive statistic analysis.

Table 1. The Result of Descriptive Statistics Analysis

Variable	N	Mean	SD	SEM
MO	100	47.59	3.89	0.38
KD	100	76.87	5.83	0.58
KC	100	21.60	7.08	0.71
KDBB	100	53.15	4.92	0.49

Note :

Mo = Motivation KD = Self-confidence, KC = Worry, KDBB = Fundamental Badminton Skill.

The innovation based on the result of descriptive statistics from the table 1 shows the average score of motivation variable was 47.45, standard deviation was 3.89, and standard error 0.38. The self-confidence variable average score was 76.87, standard deviation was 5.83, and standard error was 0,58. The worry variable gained average score 21.60, standard deviation 7.08, and standard error 0.71.

Meanwhile, the fundamental skill gained average score 53.15, standard deviation 4.92, and standard error 0.41. The following is the diagram showing the result of the descriptive statistic analysis.

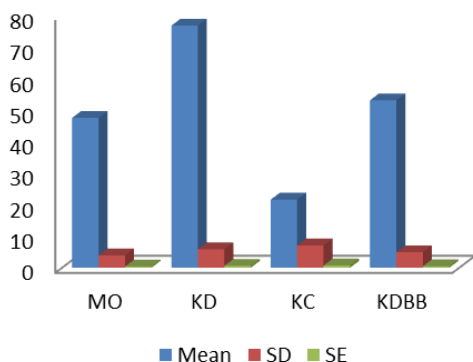


Figure 1. The Result of The Descriptive Statistics Analysis

Double Regression Analysis

According to the result of analysis in table 2, the value or R in the Model Summary table is 0,75 and the value of significance is p_value 0,00 (0,00 < 0,05). It shows that there is a correlation between motivation, self-confidence, and anxiety variables along with the outcome of the badminton test outcome, with the coefficient correlation 0,75 and determination coefficient 0,55. Motivation, self-confidence, and anxiety give

Table 2. Double regression analysis

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	0.75 ^a	0.55	0.54	3.34	

Coefficients ^a					
Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	8.62	6.22		1.38	0.18
1 MO	0.65	0.09	0.52	6.69	0.00
1 KD	0.20	0.06	0.24	3.11	0.00
1 KC	-0.11	0.05	-0.16	-2.17	0.03

a. Dependent Variable: KDBB

55% contribution on the badminton learning outcome test. Other 45% was affected by other factors that were not identified in this study.

In the analysis of each variable, it is found that the coefficient correlation of the coefficient table above is 0,52 (correlation between motivation and the badminton learning outcome test), 0,24 (correlation between self-confidence and the badminton learning outcome test), -0,16 (correlation between anxiety and the badminton learning outcome test).

The result of analysis shows that according to bi-variate analysis, motivation, self-confidence, and anxiety variables give different impacts on the result of the badminton learning outcome test. It is proven by the value of coefficient correlation 0,52 in the correlation between motivation*the badminton learning outcome test that shows a positive significant correlation. It means that the one unit increase on motivation variable will be followed by one unit increase of the badminton learning outcome test variable. Furthermore, the correlation between self-confidence and the mastery of the badminton learning outcome test gained coefficient correlation value 0,24, which means that there is a positive correlation between self-confidence and the mastery of the badminton learning outcome test. Meanwhile, in the anxiety variable, the coefficient correlation is -0,16 which means that there is a negative correlation between anxiety and the mastery of the badminton learning outcome test. It shows that the increase of one unit

of anxiety variable will be followed by the one unit decrease of the badminton learning outcome test, and vice versa.

DISCUSSION

The main purpose of this study was to test the regression equation model of the motivation, self-confidence, and anxiety variable in the mastery of the badminton learning outcome test. According to the result of analysis, it gained a regression equation model $\hat{Y}=8,62 + 0,65 \text{ Motivation} + 0,20 \text{ Self-Confidence} - 0,11 \text{ Anxiety}$. The analysis indicates that each independent variable is proven to give different contribution, which means that motivation, self-confidence, and anxiety level variable contributes to the badminton learning outcome test. The higher the motivation of a person, the mastery of the badminton learning outcome test will follow. Besides that, the higher the self-confidence of a person will have impact on the improvement of the mastery of the badminton learning outcome test. Moreover, the lower the anxiety level of a person, the higher the mastery of the badminton learning outcome test.

The result of the analysis gained significant value of motivation $0,000 < 0,05$. Therefore, it concludes that there is significant effect of motivation on the badminton learning outcome test. Motivation has a function to give energy, decide, and direct the performance (Singh & Pathak, 2017). Motivation helps an individual in setting hard goals and direct the energy and effort to reach the goals. The motivated athlete will intrinsically spend a high effort to master a skill and driven by inner motivation to finish a task. The explanation above concludes that motivation could affect a person skill.

Besides that, the significance value of self-confidence is $0,002 < 0,05$. Therefore, it concludes that there is a direct significant effect of self-confidence on the badminton learning outcome test. Self-confidence is a multi dimension construction constructed by three dimensions including cognitive efficiency, physical training and skill, resilience skill (Hidayat, 2011). The three dimensions are elaborated into eight indicators including focusing attention, making decision, managing self-thought, mastering physical skill, mastering technical skill, overcoming the mistakes, overcoming

the doubt, and performing best performance.

Meanwhile, the significant value of self-confidence variable is $0,032 < 0,05$. It concludes that there is a significant effect of anxiety on the badminton learning outcome. The relationship between anxiety and performance can be drawn in upside down U, with both high and low level have negative effect on performance, but the optimal performance could be achieved when a person have a moderate anxiety level (Kristjánsdóttir, Erlingsdóttir, & Saavedra, 2018).

According to the explanation, the anxiety, low or high, has a negative effect on performance. However, the moderate level of anxiety could result in optimal performance. Moderate level means that the amount is in the right level, not too high and not too low. Furthermore, (Wilson, Wood, & Vine, 2009) states that the high competitive anxiety level, cognitive or somatic, could have a great effect on performance. According to the statement, the researcher argues that the higher the anxiety, the more negative effect it gives on the performance. It concludes that an athlete who could control their anxiety level will have a positive effect on their performance.

According to the opinions above, the researcher concludes that self-confidence is related to the mastery of technical skill mastery thus it has impact on the badminton learning outcome test. It is supported by the opinion of (Brewer, 2007) who states that self-confidence can be thought of as the “mental modifier,” because confidence seems to modify how athletes feel about, respond to, and think about everything that happens to them in sport. Self-confidence is considered as “mental changer”, since self-confidence is like changing how an athlete feels, responds, and thinks of everything happens to them in sport. For example, self-confidence has proven positively predict the effort and persistence of athletes in sport.

The regression equation model resulted in this research is $\hat{Y}=8,62 + 0,65 \text{ Motivation} + 0,20 \text{ Self-Confidence} - 0,11 \text{ Anxiety}$. It shows that the motivation variable gives highest contribution in predicting the mastery of the badminton learning outcome test than self-confidence and anxiety variables.

CONCLUSION

According to the result of analysis presented in discussion section, this research concludes that regression equation model is proven significantly and suitable with the theoretical concept of relevant studies. The regression equation of motivation variable gives the highest contribution in predicting the mastery of the badminton learning outcome test that self-confidence and anxiety variables. However, in general, motivation, self-confidence, and anxiety give significant effects in predicting the badminton learning outcome test of the badminton school students aged 11-15.

REFERENCES

- Arief, M Fadhilah (2014). Kontribusi Kepercayaan Diri Terhadap Hasil Belajar Keterampilan Bermain Bulutangkis Berdasarkan Tingkat Kecemasan. (Tesis). Universitas Negeri Jakarta. Jakarta
- Brewer, B. W. (2007). Chapter 5 Confidence in sport. 42–51.
- Coudeville, G. R., Gernigon, C., & Martin, K. A. (2011). Self-esteem, self-confidence, anxiety and claimed self-handicapping: A mediational analysis. *Psychology of Sport & Exercise*, 12(6), 670–675. <https://doi.org/10.1016/j.psychsport.2011.05.008>
- Dosil, J. (2008). Applied Sport Psychology: A New Perspective. In *The Sport Psychologist's Handbook: A Guide for Sport-Specific Performance Enhancement*. <https://doi.org/10.1002/9780470713174.ch1>
- Grossbard, J. R., Smith, R. E., Smoll, F. L., & Cumming, S. P. (2009). Competitive anxiety in young athletes: Differentiating somatic anxiety, worry, and concentration disruption. *Anxiety, Stress and Coping*, 22(2), 153–166. <https://doi.org/10.1080/10615800802020643>
- Gunarsa, D, Singgih dan Gunarsa, D, Singgih.1989. Psikologi Perkembangan Anak Dan Remaja. Jakarta. Gunung Mulia.
- Hidayat, Y. (2011) "Model Konseptual Kepercayaan Diri dalam Aktivitas Olahraga". *Jurnal FPOK UPI*.
- Hidayat, Yusuf. (2016). The Analysis of Mental Imagery Functions in Badminton for Novice Athletes. *Ijta*, 9(35), 191–205.
- Hidayat, Yusup, & Budiman, D. (2014). The influence of self-talk on learning achievement and self confidence. *Asian Social Science*, 10(5), 186–193. <https://doi.org/10.5539/ass.v10n5p186>
- Khodayari, B. dkk. (2011). Comparison Relation between Mental Skills with Sport Anxiety in Sprint and Endurance Runners. *Elsevier, Procedia - Social and Behavioral Sciences*, 30, 2280-2284. [doi:10.1016/j.sbspro.2011.10.445](https://doi.org/10.1016/j.sbspro.2011.10.445).
- Kristjánsdóttir, H., Erlingsdóttir, A. V., & Saavedra, J. M. (2018). Psychological skills, mental toughness and anxiety in elite handball players. *Personality and Individual Differences*, 134(June), 125–130. <https://doi.org/10.1016/j.paid.2018.06.011>
- Li, C., Kawabata, M., & Zhang, L. (2016). Validity and reliability of the Sport Motivation Scale-II for Chinese athletes. *International Journal of Sport and Exercise Psychology*, 0(0), 1–14. <https://doi.org/10.1080/1612197X.2016.1153130>
- Morrow, Jackson, Disch, & Mood, (2005). *Measurement And Evaluation In Human Performance*. Human Kinetics; 3 edition
- Ramis, Y., Viladrich, C., Sousa, C., & Jannes, C. (2015a). Exploración de la estructura factorial de la Escala de Ansiedad Competitiva SAS-2: Invariancia a través de lenguaje, género, edad y tipo de deporte. *Psicothema*, 27(2), 174–181. <https://doi.org/10.7334/psicothema2014.263>
- Ramis, Y., Viladrich, C., Sousa, C., & Jannes, C. (2015b). Exploring the factorial structure of the Sport Anxiety Scale-2: Invariance across language, gender, age and type of sport Yago. *Psicothema*. <https://doi.org/10.7334/psicothema2014.263>
- Ryska, T. A., Yin, Z., & Cooley, D. (2007). Effects of trait and situational self-handicapping on competitive anxiety among athletes. *Current Psychology*, 17 (1), 48–56. <https://doi.org/10.1007/s12144-998-1020-9>
- Smith, R. E., Smoll, F. L., Cumming, S. P., & Grossbard, J. R. (2006). Measurement of multidimensional sport performance trait anxiety in children and adults: The Sport Anxiety Scale-2. *Journal of Sport & Exercise Psychology*, 28(DECEMBER), 479–501. <https://doi.org/10.1123/jsep.28.4.479>
- Spray, C. M., Wang, C. K. J., Biddle, S. J. H., & Chatzisarantis, N. L. D. (2006). Understanding motivation in sport: An experimental test of achievement goal and self determination theories. *European Journal of Sport Science*, 6(1), 43–51. <https://doi.org/10.1080/17461390500422879>
- Subarjah H, Hidayat Y. (2007). Permainan Bulutangkis, Bandung, Bahan Ajar
- Subarjah H, Hidayat Y. (2010). Permainan Bulutangkis, Bandung, Bahan Ajar
- Tenenbaum Gershon & Robert C. Eklund. (2013). Handbook of sport psychology. In *Choice Reviews Online* (Vol. 39). <https://doi.org/10.5860/choice.39-2858>
- Sugiyono. (2010). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif dan R & D*. Bandung : Alfabeta.
- Uyanto. (2006). *Pedoman Analisis Data dengan SPSS*. Yogyakarta: Graha Ilmu
- Vealey R. S., & Chase M. A. (2008). Self confidence in sport. In T.S. Horn, (Ed.), *Advances in Sport Psy-*

chology (pp. 66-97). Champaign, IL: Human Kinetics.

Wilson, M. R., Wood, G., & Vine, S. J. (2009). Anxiety, attentional control, and performance impairment in penalty kicks. *Journal of Sport & Exercise Psychology*, 31(6), 761–775.