PERCEIVED STRESS SCALE AND SELF ESTEEM IN PENCAK SILAT ATHLETES BEFORE THE 2022 SEA GAMES COMPETITION

Rony Syaifullah, Haris Nugroho, Rumi Iqbal Doewes*

Faculty of Sport, Universitas Sebelas Maret, Jl. Ir. Sutami, 36A, Kentingan, Surakarta, Indonesia

Abstract

The importance of winning in competition places athletes under pressure. In contrast, if athletes can suppress stress and increase self-esteem, then winning is not a problem. The research purposes were determined the correlation between athlete's perceived stress and self-esteem before the competition with the achievement of medals for pencak silat athletes at the 2022 Sea Games competition and shown differences in perceived stress and self-esteem for pencak silat athletes based on their medals. A quantitative research with a survey design was conducted on 21 medal-winning athletes at the 2022 Sea Games competition. Participants completed the PSS-10 (Perceived Stress Scale) and Rosenberg Self-Esteem Scale before competition. Multiple linear regression analysis and one-way ANOVA were carried out in this research with the help of SPSS 17. The results of the regression test showed that there was a correlation between perceived stress and self-esteem before competition and medals in competitions (F_{count} = 13.014, p-value = 0.000). Perceived stress shown a negative correlation with contributions of 20.57%, while self-esteem shown a positive correlation with contributions of 38.54%. The results of the one-way ANOVA test showed that there were differences in perceived stress and self-esteem in the three medalist groups (F_{count} = 3.696, p-value = 0.045 for perceived stress and F_{count} = 8.078, p-value = 0.003 for self-esteem). Athletes who win gold medals shown lower stress and higher self-esteem compared to athletes who win silver and bronze medals. The research concludes the need to suppress stress and increase self-esteem before competition.

Keywords: Perceived stress scale. Self esteem. Pencak silat

Introduction

Aziz, Tan, & Teh (2002) explained that pencak silat is a form of martial art that has received international recognition, a martial art tradition for ethnic Malays and originates from Southeast Asia. The form of martial arts has been modified into a structured competitive sport. Competing at an elite level in the sport of pencak silat required athletes to invest a lot of time and effort both in competition and training. In the context of training and competition, athletes usually experience stress. Holden et al (2019), explained that excessive stress often occurs in elite sports. Stress occurs based on dissatisfaction with training, relationships with teammates and their record of defeats and wins.

In a competition, achieving athlete achievement is the main goal and the importance of the competition results placed athletes under pressure. This causes high performance demands to be exacerbated during competition and athletes experience stress (Dehghansai, et al., 2021). Stress is especially experienced during the period of time before a competition. Souza et al (2019) reported that the stress index before competition was higher than before training. Achievement expectations are the most reported stress experience, and coaches are seen as a major source of stress due to low satisfaction with athlete performance. The pressure to win a medal or win in a competition, to always excel, and the fear of failing to achieve what is expected causes stress in athletes (Sagar, Lavallee, & Spray, 2007).

Santos et al (2020) explained that stress is related to cognitive or situational events. Cognitive events related to stressful experiences such as psychological states, perceptions of coaches or teammates and competitors, cognitions, and dispositions. While situational events occur such as feeling threatened by competitors. This relates to achievement or winning a medal in a sports competition.

Prolonged stress has a detrimental effect on performance. Stress is triggered when the athlete feels that the athlete does not have the ability to succeed and meet the demands of competition well. Poulus et al. (2022) reported that athletes report that stressors are more related to the performance such as not showing their best performance in competition, mistakes occur when appearing in competition, and there is pressure from the team, coaches and parents. When stress is felt by athletes, they are prone to decreased performance. Hamlin et al. (2019) explained that when stress is felt, tension occurs in the muscles, reduced flexibility and motor coordination, this affects fatigue. Fatigue occurs, visual attention decreases, then the peripheral nervous system, which is how the brain receives sensory information and controls all muscles, decreases, so that performance in competition is not optimal.

On the other hand, stress is also related to self-esteem. Self esteem is the perception of oneself both negative and positive perceptions. Self esteem shows how an individual respects and respects himself. High self-esteem shown a positive appreciation of oneself so that they are more daring to take risks and try to fight for their success. Athletes with high self-esteem tend to believe in their abilities and skills so that they are able to fight negative pressure and enable them to perform better in competitions (Sanader et al., 2021).

Stress can come based on a record of defeats or wins related to the importance of competition results, while self-esteem is related to belief in one's own ability to succeed in competition. If these are controlled properly, they can provide good performance so that athletes can win in competitions, but research related to medals related to the stress and self-esteem is unknown. Therefore, this research purposes were determined the correlation between athlete's perceived stress and self-esteem before competition with the medals won by pencak silat athletes at the 2022 Sea Games competition and shown differences in perceived stress and self-esteem in pencak silat athletes based on their medals. So it is hypothesized that there is a correlation between perceived stress and self-esteem and medal acquisition, and there are differences in perceived stress and self-esteem in athletes who won gold, silver and bronze medals.

Method

Study design

Researchers used a quantitative research with a survey design. In this research, a survey was conducted by distributing questionnaires of perceived stress and self-esteem to pencak silat athletes to determine the correlation between athlete's perceived stress and self-esteem by winning gold, silver or bronze medals in competitions. In addition, it is also to find out the differences in perceived stress and self-esteem in athletes who won gold, silver or bronze.

Participants

The 21 pencak silat athletes competing in the 2022 Sea Games competition. All participants are medalists in the 2022 Sea Games competition with the following summary: gold (n = 11), silver (n = 8), and bronze (n = 2).

Procedure and measurement

The participants completed 2 questionnaires before the competition. First, the PSS-10 (Perceived Stress Scale) questionnaire to assess perceived stress in the past month. There are 10 statements with 4 positive statements and 6 negative statements. There are 4 positive statements in numbers 4, 5, 7, 8. The 6 negative statements are the rest. Each participant gave an answer using a Likert scale in the form of very often, fairly often, sometimes, almost never, and never. To produce a score, very often is rated 4, fairly often rated 3, sometimes rated 2, almost never rated 1, and never rated 0. This assessment is for 6 negative statements, while for 4 positive statements it is assessed upside down. Then all the statements that have been assessed are added up. Scores range from 0-40, the higher the score means the higher the perceived stress (Reis, Ferreira, & Romélio, 2010). Second, the Rosenberg Self-Esteem

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Scale questionnaire to assess self-esteem. This questionnaire also contains 10 statements with 5 positive statements and 5 negative statements. There are 5 positive statements in numbers 1, 3, 4, 7, 10. The 5 negative statements are the rest. Each participant gave an answer using a Likert scale in the form of strongly agree, agree, disagree, and strongly disagree, and then scored starting from 4-1. This assessment is for positive statements, while negative statements are assessed in reverse. Then all the statements that have been assessed are added up. The higher the score means the higher the self-esteem (García et al., 2019). Data for medals obtained after the competition is coded as follows: 3 = gold; 2 = silver; and 1 = bronze.

Statistical analysis

To find out the correlation between perceived stress and athlete's self-esteem before competition and athletes' medals in competition, multiple linear regression was used. Prerequisite tests in the form of normality and linearity have been accepted, and there is no multicollinearity and no signs of heteroscedasticity in the regression model. Then one-way ANOVA is used to determine the difference in perceived stress and self-esteem based on athlete medals in competitions. Data analysis was performed with SPSS 17.

Result

Data description

Overall, the stress felt by pencak silat athletes before competition is in the low category and the self-esteem of pencak silat athletes before competition is in the moderate category (Table 1). A closer look at each athlete shows that 5% of athletes (n = 1) feel very high stress, 14% of athletes (n = 3) feel high stress, 24% of athletes (n = 5) feel moderate stress, 43% of athletes (n = 9) felt low stress, and 14% of athletes (n = 3) felt very low stress. At the self-esteem percentage interval, 14% of athletes (n = 3) felt high self-esteem, 43% of athletes (n = 9) felt moderate self-esteem, 19% of athletes (n = 4) felt low self-esteem, and 24 % of athletes (n = 5) felt very low self-esteem (Table 1 & Figure 1).
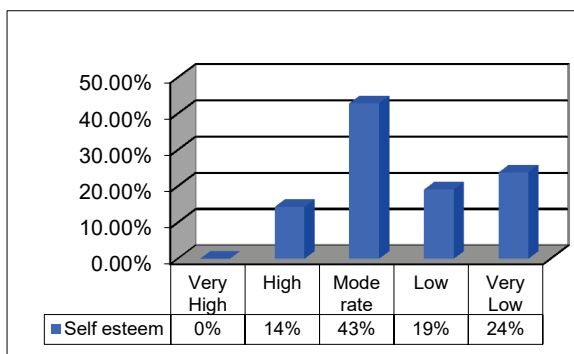
In the multiple linear regression test, it was shown that perceived stress and self-esteem before competition simultaneously affect the athlete' medal

Table 1: Data description of perceived stress and self-esteem.

Variables	Mean	SD	Category
Perceived stress	14.81	6.32	Low
Self esteem	31.52	4.88	Moderate
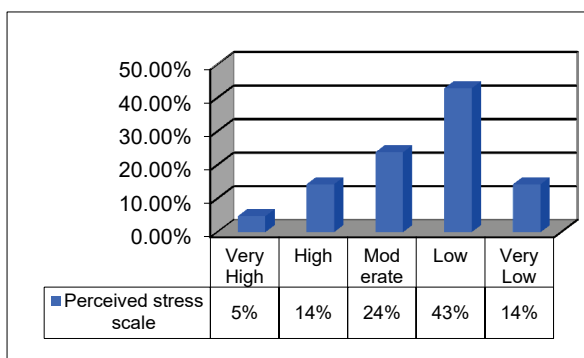
(a)

(b)

Figure 1: Percentage histogram: **(a)** Perceived stress; **(b)** Self-esteem.

acquisition (seen in the F_{count} value). The effect magnitude can be seen from the R Square value of 0.591 which means that 59.1% of medals are influenced by perceived stress and self-esteem before competition (table 2). Therefore, when viewed from each variable, namely perceived stress and self-esteem before the competition, it also affects the medals acquisition (seen on the t_{count}). Then the effect magnitude shown that the stress felt has an effect of 20.57% while self-esteem has an effect of 38.54%. This shown that the stress felt by athletes before competition has a greater effect on the medals achievement for pencak silat athletes (table 3). The regression coefficient is negative for perceived stress, shown an inverse relationship, meaning that the higher the perceived stress before competition, the less likely athletes are to get a medal. While the regression coefficient is positive on self-esteem, it shown a unidirectional relationship, meaning that the higher the self-esteem, the higher the chance of getting a medal. The regression coefficient of -0.042 on perceived stress means that a 1% increase in perceived stress means that the probability of getting a medal decreases -0.042. Meanwhile, the regression coefficient of 0.080 on self-esteem means that a 1% increase in self-esteem means that the possibility of getting a medal increases by 0.080 (table 3). (Tables 2 & 3)

If look further at the perceived stress and self-esteem of the pencak silat athletes before the competition based on their medals, there are differences in the athletes' perceived stress and self-esteem between players who won gold, silver and bronze medals. Athletes who got gold medals showed lower stress when compared to silver and bronze, while the self-esteem of athletes who got gold medals showed higher self-esteem when compared to silver and bronze (Table 4).

Table 2: ANOVA table and determinant coefficient in multiple linear regression test.

Variable	R	R square	F_{hitung}	sig
Perceived stress	.769	.591	13.014	.000*
Self esteem				
*significance at < 0.05				

Table 3: The t partial table and effective contribution to the multiple linear regression test.

Variabel	B	t_{count}	sig	Effective contribution (%)
Perceived stress	-.042	-2.498	.022*	20.57%
Self esteem	.080	3.698	.002*	38.54%
*significance at < 0.05				

Discussion

For competitive athletes, sport is "more than just a game", competition is result of extensive training and thus is an experience that must be turned into the best performances under critical evaluation from opponents, teammates, coaches. Because of this, sport presents many situations in which athletes can find themselves stressful (e.g. losing, failing in performance, or appearing in an important competition). The results of multiple linear regression analysis show that athletes' perceived stress and self-esteem before competition are predictors of medal winning for pencak silat athletes in competition, where perceived stress shows a negative correlation while self-esteem shows a positive correlation to medal acquisition.

With regard to perceived stress, it shown a negative correlation, meaning that the more athletes feel high stress, the lower the chance of getting a medal. This may occur because athletes feel less happy and feel burdened with the demands of competition results, causing stress before competition and resulting in less than optimal performance. Related to perceived happiness, the linear correlation shows an inverse relationship between stress and happiness (Schiffrin & Nelson, 2010). Apart from feeling unhappy, the cause of stress that may occur in athletes is the fear of failure in competition. In this case Gustafsson, Sagar, & Stenling (2017) reported that athletes who competed in both individual and team sports reported that fear of embarrassment of failure seen from reduced achievement had a statistically significant effect on perceived psychological stress.

Positive thoughts about self-esteem act as a buffer against perceived stress (Schiffrin & Nelson, 2010). So the possibility of getting a medal will be greater by suppressing the stress felt and increasing self-esteem. In line with this, the effective contribution related to the two variables examined in this study, namely perceived stress and self-esteem shows that perceived stress has an effect of 20.57% while self-esteem has an effect of 38.54%. This shown that high self-esteem before the competition has a greater influence on the achievement of medals for pencak silat athletes. This is because with high self-esteem before competition, athletes will be motivated to achieve success or victory in competition. In line with this, Ozrudi & Matmask (2019) reported

Table 4: Table of the results of the differences in the ANOVA test of the 3 medal groups.

Variables		Medal Acquisition			F	sig
		Gold (n=11)	Silver (n=8)	Bronze (n=2)		
Perceived stress	Mean ± SD	11.73±4.24	17.63±6.25	20.50±10.61	3.696	.045*
	%	23.53%	35.35%	41.12%		
Self esteem	Mean ± SD	34.00±3.74	30.25±3.96	23.00±1.41	8.078	.003*
	%	38.97%	34.67%	26.36%		
*significance at < 0.05						

that there was a significant relationship between self-esteem and achievement motivation.

Then, judging from the differences, it shows that there are statistically significant differences related to perceived stress and self-esteem of pencak silat athletes who win medals. Athletes who get gold medals have lower stress compared to athletes who get silver and bronze medals. The lower stress may be due to lower athlete anxiety in competition. Research by Szájer et al (2019) shows that somatic anxiety is lower in medal-winning athletes compared to athletes who rank fourth or lower in the Olympics. Marín-González et al (2022) also reported that high-level athletes have lower scores of cognitive and somatic anxiety so they have a higher level of self-confidence.

The research results also shown that athletes who win gold medals have higher self-esteem than silver and bronze medals. This is because high self-esteem before competition produces a more positive pattern of perfectionism and provides an idea of perfect performance in their sport and leads to championship performance so that the level of cognitive anxiety decreases and the level of self-confidence increases (Koivula, Hassmén, & Fallby, 2002). In line with the research results, Matmask & Ozrudi (2019) also reported that self-esteem and achievement motivation were significantly higher in successful athletes compared to unsuccessful athletes. Regular physical activity, along with increased self-esteem, leads to higher levels of achievement.

Conclussion

Before competition, athletes often experience stress because of the demands of victory in competition. For athletes who have high self-esteem, these demands are not a problem because they believe in their ability to succeed in competition. This study provides strong evidence that athletes' perceived stress and self-esteem before competition are predictors of victory in competitions by obtaining gold, silver, or bronze medals. Athletes who win gold medals display lower stress scores and higher self-esteem scores when compared to athletes who win silver and bronze medals. Therefore, by suppressing the stress that is felt before competition and increasing self-esteem, the possibility of getting a higher media can be achieved by athletes.

References

R. Aziz, B. Tan, and K. C. Teh, "Physiological responses during matches and profile of elite pencak silat exponents," J. Sport. Sci. Med., vol. 1, no. 4, pp. 147–155, 2002.

N. Dehghansai, R. A. Pinder, J. Baker, and I. Renshaw, "Challenges and stresses experienced by athletes and coaches leading up to the Paralympic Games," PLoS One, vol. 16, no. 5 May, pp. 1–20, 2021.

J. A. García, F. C. y Olmos, M. L. Matheu, and T. P. Carreño, "Self esteem levels vs global scores on the Rosenberg self-esteem scale," Heliyon, vol. 5, no. 3, 2019.

H. Gustafsson, S. S. Sagar, and A. Stenling, "Fear of failure, psychological stress, and burnout among adolescent athletes competing in high level sport," Scand. J. Med. Sci. Sport., vol. 27, no. 12, pp. 2091–2102, 2017.

M. J. Hamlin, D. Wilkes, C. A. Elliot, C. A. Lizamore, and Y. Kathiravel, "Monitoring training loads and perceived stress in young elite university athletes," Front. Physiol., vol. 10, no. JAN, pp. 1–12, 2019.

S. L. Holden, B. E. Forester, H. N. Williford, and E. Reilly, "Sport locus of control and perceived stress among college student-athletes," Int. J. Environ. Res. Public Health, vol. 16, no. 16, 2019.

N. Koivula, P. Hassmén, and J. Fallby, "Self-esteem and perfectionism in elite athletes: Effects on competitive anxiety and self-confidence," Pers. Individ. Dif., vol. 32, no. 5, pp. 865–875, 2002.

F. H. Marín-González, I. Portela-Pino, J. P. Fuentes-García, and M. J. Martínez-Patiño, "Relationship between Sports and Personal Variables and the Competitive Anxiety of Colombian Elite Athletes of Olympic and Paralympic Sports," Int. J. Environ. Res. Public Health, vol. 19, no. 13, 2022.

E. A. Matmask and M. F. Ozrudi, "Survey of self-esteem among successful and unsuccessful student athletes and this relationship by achievement motivation.," Asian Exerc. Sport Sci. J., vol. 3, no. 1, pp. 1–7, 2019.

D. R. Poulus, T. Coulter, M. Trotter, and R. Polman, "Perceived Stressors Experienced by Competitive Esports Athletes," Int. J. Esports, vol. 1, no. 1, p. 73, 2022.

R. Siqueira Reis, A. A. Ferreira Hino, and C. RomÉlio Rodriguez AÑez, "Perceived stress scale: Reliability and validity study in Brazil," J. Health Psychol., vol. 15, no. 1, pp. 107–114, 2010.

S. S. Sagar, D. Lavallee, and C. M. Spray, "Why young elite athletes fear failure: Consequences of failure," J. Sports Sci., vol. 25, no. 11, pp. 1171–1184, 2007.

A. Sanader, J. R. Petrović, L. Bačanac, I. Ivković, I. Petrović, and O. M. Knezević, "Competitive trait anxiety and general self-esteem of athletes according to the sport type and gender," Primenj. Psihol., vol. 14, no. 3, pp. 277–307, 2021.

M. Lopes Dos Santos et al., "Stress in Academic and Athletic Performance in Collegiate Athletes: A Narrative Review of Sources and Monitoring Strategies," Front. Sport. Act. Living, vol. 2, no. May, pp. 1–10, 2020.

H. H. Schiffrin and S. K. Nelson, "Stressed and happy? Investigating the relationship between happiness and perceived stress," J. Happiness Stud., vol. 11, no. 1, pp. 33–39, 2010.

R. A. Souza et al., "Heart rate variability, salivary cortisol and competitive state anxiety responses during pre-competition and pre-training moments," Biol. Sport, vol. 36, no. 1, pp. 39–46, 2019.

P. Szájer et al., "A comparative analysis of national olympic swimming team members' and para-swimming team members' psychological profiles," Cogn. Brain, Behav. An Interdiscip. J. , vol. 23, no. 4, pp. 299–311, 2019.

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