The Psychological Characteristics of the Indonesian SEA Games Athletes in the Measurable Sport

Ipa Sari Kardi and Dimyati Dimyati

Sport Sciences Study Program, Graduate Program, Universitas Negeri Yogyakarta, Jln. Colombo No. 1, Sleman, Yogyakarta, Indonesia

ipaatletikteam@gmail.com

Keywords: Sport Psychology, Sea Games Athletes, Measurable Sport Branches.

Abstract: This research aimed at identifying the difference of the Indonesian SEA Games athletes in the measurable sport branches. The method is the ex-post facto with a retrospective comparative design and the samples were 70 athletes. The data collection utilized the Psychological Skills Inventory Sports. The data analysis used Manova with the significance level at 0.05. The research result showed that: (1) the psychological characteristic of the Indonesian SEA Games athletes in the measurable sport branches were generally in the high category in each of sport branches, namely: (a) athletics was in the high category; (b) water ski was in the very high category;   (c) weightlifting was in the high category; (d) cycling was in the high category; and (e) swimming was in the high category; and (2) the Manova testing resulted the value of Wilk's Lamda at 0.688 and sig value at 0.478   (P > 0.05). Then, there was no significant difference between the Indonesian SEA Games athletes in the measurable sport branches. Conclusion; the psychological characteristic of the Indonesian SEA Games athletes in the measurable sport branches were the high category and there was no significant difference between measurable sport branches.

1   INTRODUCTION

The psychological skill was important in the sport and exercise psychology because the psychological state was considered to influence the performance in the management of the sport and exercise, therefore if the athletes could manage the psychological state, the athletes would be able to improve their performances. The psychological skills which would be disclosed in this research are the motivation, self confidence, anxiety control, mental preparation, team priority, and concentration. The six psychological aspects were badly needed in every sport branches in accordance to the types of the sport branches. Nine psychological skill that contributed to the athlete achievement gain, namely, attitude, motivation, goals and commitment, people skill, self-talk, mental imagery, managing anxiety, managing emotions, and concentration (Lesyk, 2007). Moss confirmed that the themes of concentration, anxiety management, self-confidence, mental preparation, and motivation were seen to have potential importance in skill-level differentiation (Moss, 2008). As for the psychological aspects that would be studied using the instrument of the psychological skills inventory for sports covered the motivation, self confidence,

anxiety control, mental preparation, team priority, and concentration (Mahoney, Gabriel, and Perkins, 1987).

Motivational processes could be defined by the psychological constructs that energize, direct, and regulate achievement behavior (Hanraham and Andersen, 2010). It was asserted, further, by Tenenbaum and Eklaud that understanding and enhancing motivation was one of the most popular areas of research in psychology, as well as sport and exercise psychology (Tenenbaum and Eklaud, 2014). Self confidence rose to be the key skill possessed by the elite athletes, and the international elite athletes had identified the self confidence as the most important mental skill which defined the mental persistence (Brewer, 2009). Anxiety was defined as a negative emotional state (feeling fearful and uncomfortable, experiencing dread) characterized by nervousness, worry, and apprehension and associated with activation or arousal of the body (Hanraham and Andersen, 2010). The experience of anxiety before and during athletic competitions can have a variety of unwanted outcomes, including poor athletic performance (Schaefer, Vella and Allen, 2016).

Mental preparation was the individual mental where the spiritual abilities, namely, the thought, the

will, and the emotion were ready to undergo the tasks suited to his abilities (Grieve, Whelan, and Meyers, 2000). As it was disclosed before, athletes' mental development was as important as three other factors because even though the athlete's physical, technical and tactical developments are perfect, if their mental states were not developed as well, it was impossible to get high achievement. Basically every athlete was the member of a certain sport club that regularly carried out exercises and competitions. In such team, every athlete gained experiences, both the sport sciences and skills. As it was stated that the effectiveness of a team depended on two things, namely, the members' skill and the leader's ability to facilitate the process.

Based on some studies above, it is confirmed that the psychological aspects, such as (1) motivation; (2) self confidence; (3) anxiety control; (4) mental preparation; (5) team emphasis; and (6) concentration are the psychological aspect which influence the performance or the achievement of the athletes in any kinds of sport. In other words, to obtain the achievement in any sports, an athlete cannot be separated from the influence of the psychological aspects. Approaching the implantation of the SEA Games in Malaysia 2017, the Indonesian athletes' preparation did not only cover the physic and technique, but also in the psychological skills in the hope that it would support the athletes' performance. However, the information or the study of the athlete's psychological aspect, especially the Indonesian elite athletes, was still minimum.

Based on this, the writer was interested to study and understand the psychological characteristic of the Indonesian SEA Games athletes who pursue the measurable sport branches. Hence, it employed the instrument of The Psychological Skill Inventory to disclose the psychological characteristics of the Indonesian SEA Games athletes. Therefore, this research was aimed at identifying: (1) the psychological characteristics of the Indonesian SEA Games athletes in the measurable sport branches covering the athletic, water skiing, weightlifting, cycling, and swimming; and (2) the presence or absence of the difference of the psychological skills of the SEA Games XXIX athletes in the measurable sport branches.

2 METHODS

The research samples were the Indonesian SEA Games athletes in the measurable sport branches assigned using accidental sampling technique

involving 70 athletes (male 42 and female 28). The samples consisted of 12 Athletics athletes, 9 weightlifting athletes, 23 cycling athletes, 16 swimming athletes, and 10 water skiing athletes.

The research employed the ex-post facto method with a retrospective comparative design. The research was conducted from 24 February 2017 until 13 April 2017. The data gathering was done in some cities which became the training centers for the Indonesian SEA Games athletes, namely, Jakarta, West Java, Yogyakarta, Solo, and Bali.

The research used the instrument of The Psychological Skills Inventory for Sports, consisting of six aspects of psychological skills namely; (1) motivation; (2) self confidence; (3) anxiety control; (4) mental preparation; (5) team emphasis; and (6) concentration. The contents of the instruments are in table 1, as follows:

Table 1: The Instrument Contents of The Psychological Skills Inventory for Sports.

Variabel	Aspect	Number of Item
Psychological Skills	Motivation	8
	Self Confidence	7
	Anxiety Control	7
	Mental Preparation	6
	Team Emphasis	4
	Concentration	6
	Total	38

Every answer in the statement item in the questionnaires/instrument was rated by using the likert scale; every answer had the score ranging from positive to the negative scores in the ranges of 1 – 5. The scoring could be seen in table 2, as follows:

Table 2: Answer Scores.

Alternative Answer	Positif Answer	Negatif Answer
Always	5	1
Often	4	2
Sometimes	3	3
Very seldom	2	4
Never	1	5

The data processing was carried out using the descriptive statistics and Manova testing. To identify the psychological characteristics of Indonesian SEA Games athletes in the measurable sport branches, the data were categorized using the formula of the mean and the standard deviation, like in table 3.

Table 3: The Formula to Determine the Criteria.

No	Interval	Category
1	above (Mi + 1.8SD) up to (Mi + 3SD)	Very High
2	above (Mi + 0.6) up to (Mi + 1.8SD)	High
3	above (Mi – 0.6SD) up to (Mi + 0.6SD)	Medium
4	above (Mi – 1.8SD) up to (Mi - 0.6SD)	Low
5	(Mi – 3SD) up to (Mi – 1.8SD)	Very Low

Source: Wagiran, 2015.

Based on the definition formula of ideal mean and the standard deviation, it was obtained the instrument criteria to identify the psychological characteristic of the Indonesian SEA Games athletes, as shown in table 4, as follows:

Table 4: The Criteria of the Psychological Characteristic of the SEA Games Athletes in the measurable sport branches.

No	Interval	Category
1	above 159.59 up to 190	Very High
2	above 129.20 up to 159.59	High
3	above 98.80 up to 129.20	Medium
4	above 68.41 up to 98.80	Low
5	38 up to 68.41	Very Low

The Psychological Skills Inventory for Sports was the instrument adopted from foreign country. Therefore, before it was employed, it would be firstly undergone a validation of contents using the expert judgment and would be tested to the National Sport Week in Yogyakarta. The criteria used here were the range between 0.21 up to 0.35. The result of the instrument testing was the cronbach's alpha score in the amount of $0.890 > 0.60$, hence it could be concluded that the instrument was valid and reliable to use.

The data analysis techniques utilized the descriptive statistic and Manova, with significance level of 0.05. Before multivariate analysis was used, it would be conducted homogeneity testing using the Box's Test of Equality. The result of variance homogenities was elaborated in table 5, as follows:

Table 5: Box's Test Equality of Covariance Matrices.

Box's M	119.994	
F	1.079	0.293 > 0.05
df 1	84	Homogen
df 2	4204.864	
Sig.	.293	

Based on the analysis result as shown in table 5 above, it was obtained that the value of Box's M is 119.994 with the value of sig. 0.293; for the value of sig. = 0.293 > 0.05, it could be concluded that the variance of every variable of the psychological

aspect of the Indonesian SEA Games athletes in the measurable sport branches is homogenous. Thus, the data matched the requirement for Manova test.

3 RESULTS AND DISCUSSION

3.1 Research Result I

The result of data research obtained was analyzed using the descriptive analysis to identify the mean score of which became the criteria of psychological skill characteristics of the SEA Games XXIX athletes in the measurable sport branches.

The mean score of the measurable sport branches in the amount of 152.23 which showed that the psychological characteristics of the Indonesian SEA Games athletes in the measurable sport branches were generally in high category. The psychological characteristic of each sport branches are as follows: (a) In the sport branch of Athletic, it was obtained the mean score in the amount of 156.92, the mean score indicated that the psychological characteristic of athletic athletes were in high category; (b) In the sport branch of Water Skiing it was obtained the mean score in the amount of 164.80, the mean score indicated that the psychological characteristic of Water Skiing athletes were in the very high category; (c) In the sport branch of Weightlifting it was obtained the mean score in the amount of 153.89, the mean score indicated that the psychological characteristic of Weightlifting athletes were in high category; (d) In the sport branch of Cycling it was obtained the mean score in the amount of 148.96; the mean score indicated that the psychological characteristic of Cycling athletes were in the high category; (e) In the sport branch of Swimming it was obtained the mean score in the amount of 150.88; the mean score indicated that the psychological characteristic of Swimming athletes were in the high category.

Figure 1: Radar Diagram of the Psychological Characteristics of The Indonesian SEA Games athletes in the measurable sport branches

3.2 Research Result II

The research data result were analyzed using Manova analysis to identify whether there was any difference in the psychological characteristics of the Indonesian SEA Games athletes in the measurable sport branches, to prove the hipotheses as follows:
Hypotheses:

Ho : there is no significant difference between the psychological characteristic of Indonesian SEA Games Nationally-trained athletes in the measurable sport branches.

Ha : there is significant difference between the psychological characteristic of Indonesian SEA Games Nationally-trained athletes in the measurable sport branches.

Criteria:
(a) If the significance value > 0.05, then Ho was accepted, hence there was no significant difference in between the psychological characteristic of the athletes in the measurable sport branches;
(b) If the significance value < 0.05, then Ho was rejected, hence there was significant difference in between the psychological characteristic of the athletes in the measurable sport branches.

The Result of the multivariate analysis to see whether there was any difference of the psychological characteristic of the Indonesian SEA Games athletes in the measurable sport branches can be seen in table 7.

Table 7: Multivariate Test.

Effect		Value	F	Sig.	No significant
Sports	Wilks' Lambda	.688	.992	.478	

Based on the output in table 7, it could be identified that by the multivariance Manova testing, it could be obtained the value of Wilks' Lambda in the amount of 0.688 with F = 0.992 and sig. 0.478. The value of sig. Was $0.478 > 0.05$, then Ho was accepted, hence it could be concluded that there was no significant difference among the psychological characteristics among the Indonesian SEA Games athletes in the measurable sport branches.

3.3 Discussion

Based on the research result of the psychological characteristics of the athletes consisting of 6 aspects, namely, motivation, self confidence, anxiety control, mental preparation, team priority,

and concentration, it was obtained the mean score of 152.23; the score showed that the psychological characteristic of the Indonesian SEA Games athletes were generally in the high category. From the research result, it was also obtained the score of Wilks' Lambda in the amount of 0.688 with F = 0.992 and sig. 0.478 that showed that there was no significant difference of the psychological characteristic in between the athletes in the measurable sport branches.

The absence of the difference of the psychological characteristic the Indonesian SEA Games athletes because in the measurable sport branches is because basically the sport branches that are categorized the measurable sport branches have the same characteristics, namely, being not face to face competition and having the limit that the athletes should achieve or even surpass it, and the implementation is dominantly carried out by individual. The relation of psychological skills and type of sport, significant main effect for motivation, confidence, anxiety control, mental preparation and concentration (Elferink, Visscher, and Lemmink, 2005). Besides, among the elite athletes having the same scores were like the Indonesian SEA Games athletes who were the elite athletes. The sport branch of Athletic consisted of some categories, namely, running, jumping and throwing, each of which was divided into more specific events, for example, the category of running consists of short-distance running (100 to 400 meters), middle distance (800 to 1500 meters), long-distance running (5000 to 10000 meters), and the half marathon (Dosil, 2006). Talking about the psychological skills of the Athletic athletes, there are of course many kinds, depending on the distance categories and the dominant movement patterns in athletic category the athlete pursue Dosil also asserted that the psychological characteristics of this type of event vary enormously depending on the distance.

The same things happen to the water skiing which consists of some categories, among others, jumping and trick riding. In the implementation, beside demanding a qualified technique, the psychological aspects have supporting role in the athlete's performance. The sport branch of Weightlifting that has extraordinary challenges, the athlete needs a very good concentration skill (Gump and Brauer, 2014). Moreover, they stated that, in the weightlifting sport branch, the athlete must be able to centralize all energy to the lift itself, without anything bothering the mind. In the sport competition involving distance between 50 km and 250 km, with many environmental challenges, such

as heat, frost, climb and rain, it is demanded that the athlete have persistent psychological and physical conditions. On the other side, especially in the swimming sport branch, Widohardhono said that training and competitive and recovery programs should consider the mental, cognitive, and emotional development of each athlete. Beyond the physical, technical, and tactical development including decision making skills, the mental, cognitive, and emotional development should be enhanced (Widohardhono, 2014). Similarly, the swimming study's results clearly demonstrate the importance of the interactional model of motivation (Wilson, 2014).

Based on the research result discussed above, it shows that the psychological aspects in every sport branch, categorized in the measurable sport branches, have the same characteristics, hence there is no significant difference of the characteristics of the psychological skills among the Indonesian SEA Games athletes in the measurable sport branches.

4 CONCLUSIONS

Analysis of Material Requirement Planning (MRP) Based on the research results obtained psychological skill athletes SEA Games Indonesia measurable sport branches is in the high category, so it can be concluded that psychological aspects capable of supporting athletes achievement. Other than that the research result also shows that there is no significant difference in terms of psychological characteristics among the Indonesian SEA Games athletes in five measurable sport branches, namely athletics, water skiing, swimming, weightlifting and cycling.

REFERENCES

Brewer, B.W. 2009. *Handbook of sport medicine and health; Sport psychology.* USA: Wiley-Blackwel.

Dosil. J. 2006. *The Sport Psychologist's Handbook: A Guide for Sport-Specific Performance Enhancement.* USA: John Wiley & Sons, Ltd; 2006.

Eklund, R. C. & Tenenbaum, G. 2014. *Encyclopedia of Sport and Exercise Psychology.* Los Angeles: Sage Reference.

Elferink-Gemser, M. T., Visscher, C., Lemmink, K.A.P.M. 2005. *Psychological characteristics of talented youth athletes in field hockey, basketball, volleyball, speed skating, and swimming.* Accessed from www.rug.nl.

Gump, C., Brauer, M. 2014. *Advanced Weightlifting and Sport Performance Manual.* USA: USA Weightlifting.

Grieve, F. G., Whelan, J. P. 2000. Meyers, A. W. An experimental examination of the cohesion-performance relationship in an interactive team sport. *Journal of Applied Sport Psychology.* 2000; 12, 219-235. Diakses pada tanggal, 10 Desember 2016 http://dx.doi.org/10.1080/10413200008404224.

Hanraham, S. J., Andersen, M. B. 2010. *Routledge hanbook of applied sport psychology: Acompresive guide for students and practitioners.* New York: Taylor & Francis Group.

Lesyk. J. 2007. The Nine Skills of a Successful Athlete. *Podium Sport Journal.* Accessed from www.podiumsportjournal.com.

Mahoney, M. J., Gabriel, T. J., & Perkins, T. S. 1987. Psychological Skills and Exceptional Athletic Performance. *Human Kinetics Journal, The Sport Psychologist.* 1 (3): 181-199. Accessed from https://doi.org/10.1123.

Moss, A. 2008. *Long Term Athlete Development Strategy: Swimming to win; winning for Life.* Canada: Swimming. Natation Canada.

Schaefer, J., Vella. S.A., Allen, M.S., et al. 2016. Competition anxiety, motivation, and mental toughness in golf. *Journal of Applied Sport Psychology.* 28:3, 309-320. Diakses pada tanggal 21 April 2016, dari http://dx.doi.org/10.1080/10413200.2016.1162219.

Tenenbaum. G., Eklaud. R.C. 2007. *Hanbook of sport psychology 3ed.* Canada: John Weley & Sons, Inc.

Wagiran. 2015. *Metodologi Penelitian Pendidikan: Teori and Implementasi.* Yogyakarta: Deepublish.

Widohardhono, R. 2014. Psychological Capital Profile of Student Athletes in Senior High School of Sport. *Proceeding International Seminar of Sport and Excercise Science.* 978-602. Accessed from www.isses-fik.org.

Wilson, G. 2014. The Application of Sport Science in Developing Elite Indonesian Athletes. *Proceeding International Seminar of Sport and Excercise Science.* 2014; 978-602. Diakses pada tanggal 23 Maret 2016, dari www.isses-fik.org