

Level of Sport Performance of Universiti Malaya (UM) Athletes

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Abstract Student-athletes used a lot of their time on training and preparation for competition, especially MASUM (Sport between Universities), which held every year. Sex has been identified as an important variable of athletic performance through the impact of height, weight, fat percentage, muscle mass, aerobic capacity or anaerobic threshold as a result of genetic and hormonal differences. Besides that, the environment, aim and perception of athletes in individual and team sports are different and this also can influence their performance in sport. The main purpose of this study was to examine the levels of performance among gender and different types of sports (Team and Individual). The participants of this study were recruited from Universiti Malaya (UM). Level of Sport Performance Scale (LSPS), contain 30 items, which measures 7 important elements (Speed, Core Training Workout, deal with stress and anxiety, tolerance of pain, confident, deal with distraction and satisfaction) of sport performance were used in the study. The data were collected at the end of the competition. The sample consisted of 79 athletes, with male athletes (N=49) and female athletes (N=30). While individual sport athletes (N=43), and team sport athletes (N= 36). This study confirms that the performances of male athletes are higher than female athletes. The results also showed that the individual athletes perform better than team athletes. Athletes of individual sports worked harder for competition, as a sole performer, athlete got no one to rely on. Whereas in team sports most athletes knew of no matter how well or how poorly one performs, it's up to the team as a whole to work together and win. The results supported a few previous studies. This current sports performance analysis enables the sport psychologist and coaches to improve sporting performance of female and team athletes.

Keywords Performance, MASUM, Individual Sport, Team Sport.

Student-athletes used a lot of their time in training and preparation for competition, especially MASUM (Sport between Universities), which held every year. The objective of the MASUM (Sport between Universities) competition is to integrate various universities into sport activities. The MASUM (Sport between Universities) competition is very tough since 20 universities in Malaysia participate every year. Their main aim of every student-athlete in MASUM competition is to win their university as champion. However not every athlete or every university can perform to the highest level.

Those universities, which compete at MASUM are Universiti Malaya (UM), Universiti Putra Malaysia (UPM), Universiti Teknologi MARA (UiTM), Universiti Kebangsaan Malaysia (UKM), Universiti Sains Malaysia (USM), Universiti Utara Malaysia (UUM), Universiti Teknologi Malaysia (UTM), Universiti Islam Antarabangsa Malaysia (UIAM), Universiti Pendidikan Sultan Idris (UPSI), Universiti Malaysia Sarawak (UNIMAS), Universiti Malaysia Sabah (UMS), Universiti Sains Islam Malaysia (USIM), Universiti Tun Hussein Onn Malaysia (UTHM), Universiti Malaysia Terengganu (UMT), Universiti Teknikal Malaysia Melaka (UTeM), Universiti Malaysia Perlis (UniMAP), Universiti Malaysia Pahang (UMP), Universiti Sultan Zainal Abidin (UniSZA), Universiti Pertahanan Nasional Malaysia (UPNM), Universiti Malaysia Kelantan (UMK) (Majlis Sukan Universiti Malaysia, 2012).

A few variables have been identified as the determinant of performance in MASUM sports among student-athletes. Sex has been identified as a major determinant of athletic performance through the impact of height, weight, higher fat percentage muscle mass, aerobic capacity or anaerobic threshold as a result of genetic and hormonal differences (Maldonado-Martin, Mujika & Padilla, 2004; Libster, Heled, Shapiro & Epstein, 1999; Patton, Daniels & Vogel, 1980). Numerous studies have examined the impact of gender on sport performance (Alessandra, Carlo, Claudia, Maria, Alessandra, Marina & Laura 2008; Trost, Pate, Sallis, Freedson, Taylor, Dowda & Sirard 2002; Scali, Sheila & Jennifer 2000).

1. Introduction

A few elements of sport performance have been identified. The level of stress, anxiety, pressure, concentration, physical ability and mental toughness play an important role in sport performance (Rodriguez, 2005; Elferink, Visscher, Lemmink, & Mulder, 2004; Hyllegard, Radlo, & Early, 2001; Humara, 2000). According to Auweele, DeCuyper, Mele and Rzewnicki (1993) elite athletes' possess more self confidence, less anxiety, used effective techniques to deal with anxiety, and greater concentration compared less skilled athletes. The psychology dispositions of successful competitors are risk taking, stimulus-seeking, competitiveness, self confidence, attention focus, mental toughness and ability to regulate stress (Anshel, 2003).

History has not been kind to the female athletes (Anshel, 2011). According to LeUnes and Nation (2001), women were first allowed to participate in the Olympic Games in 1900. Before that, for example in early Greece, women were not only prevented from competing in the Olympic Games, but could have been sentenced to death for even observing others compete (Anshel, 2011). With gender equality being the focus of government of many countries attention in recent years, the status of women in sport has seen great improvement over the past. Women have proven themselves through fair competition, and many elite female athletes have been showing up high performance in international sports. Taekwondo champion Chen Shih-Hsin shocked us all when the force of her blow won her Taiwan's first-ever gold medal (Women Web, 2004). Great Britain's women won their first competitive match on the London 2012 Olympic hockey pitch, beating South Korea 1-0 at their Olympic test event (Williams, 2012). However, since most of the sport psychologist researches focus on male athletes (Cox, 2011; Anshel, 2011), it is still not clear the performance of female athletes especially in Malaysia. Even though most of the research showed that males performed better than females in sports, but there needs more research to determine it, so support in this area may provided to female counterparts. So, there is a need to do research on females' athletes' performance in sport.

Another variable which determined the performance of sports is type of sports. According to Fischman and Oxedine (1998), athletes in individual sport compete individually with one or more than one person while in team sports compete with the interaction of other teammates. Therefore the environment, aim and perception of athletes on both types of sports are different and it can influence the performance. There is more research done on team sports than individual sports, therefore the level of performance on individual sport still not clear (Jerome and Williams 2000; Nesti 2004; Hagger and Chatzisarantis 2005). So, this research sought to determine the level of performance in sport between team and individual sport athletes.

2. Purpose of the Study

The main purpose of this study was to examine the levels

of performance among athletes. This research will determine the performance of male and female athletes. Besides that, this research also determines the level of performance between different types of sports. The performance of team sport and individual sport athletes will be the main focus of this research.

3. Methods

The participants of this study were recruited from Universiti Malaya (UM). Level of Sport Performance Scale (LSPS) was used in this study. This questionnaire based on previous literature on sport performance. Level of Sport Performance Scale (LSPS), contain 30 items, which measures 7 important elements of sport performance. They are Speed (mobility of limbs, muscular strength and flexibility of joints), Core Training Workout (levels of fitness and activity), deal with stress and anxiety, tolerance of pain, confident, deal with distraction and satisfaction. Besides that, each participant must evaluate their performance as high, medium or low at the demographic section. The data were collected during MASUM (Sport between Universities) competition. The sample consisted of 79 athletes, with male athletes (N=49) and female athletes (N=30). While individual sport athletes (N=43), and team sport athletes (N= 36).

4. Result

4.1. Performance of Gender

4.1.1. Performance of Gender based on Elements of Sport Performance

Table 1 shows the mean scores for each elements of sport performance differ among the gender. Apparently, the mean scores of male athletes higher in every elements of sport performance.

Table 1. Gender differences on Elements of Performance

Elements of Sport Performance	Gender	
	Male Mean	Female Mean
Speed	3.37	2.78
Core Training Workout	2.71	2.15
Deal with Stress and Pressure	3.75	2.71
Tolerance of pain	3.56	2.17
Confidence	3.68	3.21
Deal with distraction	3.11	2.57
Satisfaction	3.71	2.59

4.1.1. Performance of Gender based on Evaluation

Chi Square showed significant differences in performance among gender. The proportion of male athletes who perform the highest level was 30, whereas the proportion of females who perform the highest level was only 7. The difference in proportions is significant, $\chi^2 (2, N = 79) = 16.121, p < 0.000$ (Table 2).

Table 2. Gender differences on Performance of UM student-athletes

Gender	Performance			Chi-Square	Value-p
	High	Medium	Low		
Male	30	15	4	16.121	0.000**
Female	7	5	18		

**p<0.01

4.1.2. Performance of Gender based on Level of Sport Performance

T-test showed significant differences on levels of performance among gender $t(79) = 16.172, p < .01$ (Table 3).

Table 3. Gender differences on Performance of UM student-athletes

Gender	Sport Performance		
	Mean	Value-t	Value-p
Male	24.198	16.172**	0.000
Female	15.237		

**p<0.01

This study confirms that the performances of male athletes are higher than female athletes (Table 1, Table 2 and Table 3). The result is concurrent with a few studies done by Alessandra et al. (2008), and Scali et al. (2000). Bergh, Sjodin and Forsberg (1991) and, Daniels and Daniels (1992) reported that men performance in sport were higher than women.

Physiologically men are stronger than women. The cardio vascular system (blood circulation system) of men and women on average differ as follows (Stander, 2013):

- i. Men has $\pm 80\%$ larger heart then women.
- ii. Men has $\pm 40\%$ more blood volume in the body the women.
- iii. Men has $\pm 11\%$ more red blood cells in the body.
- iv. Men has $\pm 11\%$ more haemoglobin in the body then women.

The result also revealed that females' athletes are poor in dealing situation of stress and anxiety in sport competition. According to Montgomery and Morris (1994) and, Lewinsohn, Gotlib, Lewinsohn, Seeley and Allen (1998), overall females exhibit higher anxiety and stress than males because of biological factors and their role in society. Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitating towards performance, which may result in decreases in performance (Weinberg & Gould,

2011; Raglin & Hanin, 2000).

The result showed that the level of self-confidence of female athletes is lower than males. This result has received support from quite a number of research done by Thatcher, Thatcher and Dorling (2004) and, Cartoni, Minganti and Zelli (2005). The level of anxiety and stress has a tendency to reduce the level of self confidence among female athletes.

4.2. Performance of Types of Sport

4.2.1 Performance of Types of Sport based on Elements of Sport Performance

Table 4 shows the mean scores for each elements of sport performance differ among the types of sport. Apparently, the mean scores of individual sport athletes were higher in every elements of sport performance.

Table 4. Gender differences on Elements of Performance

Elements of Sport Performance	Types of Sports	
	Team Sport (Mean)	Individual Sport (Mean)
Speed	3.12	3.37
Core Training Workout	2.75	2.99
Deal with Stress and Pressure	3.46	3.78
Tolerance of pain	3.11	3.27
Confidence	3.54	3.61
Deal with distraction	3.13	3.35
Satisfaction	3.21	3.48

4.2.1. Performance of Types of Sport based on Evaluation

Chi Square showed significant differences in performance among types of sport. The proportion of individual sport athletes who perform the highest level was 29 whereas the proportion of team sports athletes who perform the highest level was only 10. The difference in proportions is significant, $\chi^2 (2, N = 79) = 16.344, p < 0.000$ (Table 5).

Table 5. Types of Sport differences on Performance of UM student-athletes

Types of Sport	Performance			Chi-Square	Value-p
	High	Medium	Low		
Team Sport	10	14	10	16.344	0.000**
Individual Sport	29	8	8		

**p<0.01

4.2.2. Performance of Types of Sport based on Level of Sport Performance

T-test showed significant differences on levels of performance among gender $t(79) = 12.767, p < .01$ (Table 6).

Table 6. Gender differences on Performance of UM student-athletes

Types of Sport	Sport Performance		
	Mean	Value-t	Value-p
Team	11.821	12.767**	0.000
Individual	14.137		

**p<0.01

The results show that the individual athletes perform better than team athletes. Individual teams perform better because self confidence as a skill for success automatically developed in individual sports. The result of elements of sport performance also showed that the self confidence of individual sport athletes is higher. As a sole performer in an individual sport, athlete got no one to rely on but himself.

Cox, Liu and Qiu (1996) found that athletes of individual sports worked harder for competition because cannot rely on the teammate. In other words, lose or win, they determined individually. This enhances their speed, core training workout and tolerance of pain. Contrary, in team sports most athletes have the knowledge that success and failure both are a team effort, and no matter how well or how poorly one performs, it's up to the team as a whole to work together and win. One may argue this develops dependence rather than independence (Fazio, 2011).

The different environment and social responsibility of individual and team sports can influence the differences in the level of sport performance (Aufenanger, 2005; Scanlan, 1984). In team sports, athletes have more tendencies to socially interact with each other and audience, which can cause a lot of distraction, compared individual sports. As we knew, team sports like football and hockey, attract more audience. Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels on team sports (Heather, 2010). Furthermore, according to Drive theory, the presences of audience can influence athletes' attention, anxiety and stress, which can resulted deteriorate their level of performance. The present of audience can increase noise in arena sport, which can contribute the level of anxiety among team athletes (Lloyd & Meyers, 1999; Pragman, 1998).

5. Conclusion

The result showed that the performance of male and individual sport athletes of Universiti Malaya are higher than female and team sport athletes. This sports performance analysis enables the sport psychologists and coaches to improve sporting performance of female and team athletes. Sport psychologists, sport counselors and coaches should use the present findings to recommend appropriate strategies to increase their level of sport performance.

REFERENCES

- [1] Anshell, M. H. 2003. Sport Psychology, From Theory to Practice. San Francisco, CA: Benjamin Cummings.
- [2] Alessandra, D.C., Carlo, B., Claudia, B., Maria, D.M., Alessandra, P., Marina, P. & Laura, G. 2008. Factors influencing performance of competitive and amateur rhythmic gymnastics—Gender differences. *Journal of Sport Science and Medicine in Sport* 12(3): 411-416.
- [3] Aufenanger, S. J. (2005). Relationships between mental skills and competitive anxiety interpretation in open skill and close skill athletes. Masters Thesis Miami University, Oxford, Ohio.
- [4] Auweele, V.Y., DeCuyper, B., Mele, V. & Rzewnicki, R. 1993. Elite performance and personality: From description and prediction to diagnosis and intervention. In R. N. Singer, M. Murphy & L.K. Tenant, *Handbook of Research in Sport Psychology*. New York: Macmilan
- [5] Bergh U, Sjødin B. & Forsberg A. 1991 The relationship between body mass and oxygen uptake during running in humans. *Med Sci Sports Exerc*, 23:205–11.
- [6] Anshel, 2011. *Sport Psychology: From Theory to Practice*. Scottsdale, Arizona: Gorsuch Scarisbrick.
- [7] Cartoni, A.C., Minganti, C. & Zelli, A. 2005. Gender, age and professional-level differences in the psychological correlates of fear of injury in Italian gymnast. *Journal of Sport Behavior*, 28, 3-17.
- [8] Cox, R. H. 2011. *Sport Psychology, Concepts and Applications*. New York: McGraw-Hill.
- [9] Cox, R.H., Liu, Z., & Qiu, Y. 1996. Psychological skills of elite athletes. *International Journal of Sport Psychology*, 27:123-132.
- [10] Daniels, J. & Daniels, N. 1992. Running economy of elite male and elite female runners. *Medicine and Science in Sports and Exercise*, 24: 483-489.
- [11] Elferink, G., Visscher, C., Lemmink, K., & Mulder, T. 2004. Relation between multidimensional performance characteristics and level of performance in talented youth field hockey players. *Journal of Sports Sciences*, 22, 1053-1063.
- [12] Fazio, 2011. The Advantages Of Individual Sports Over Team Sports (<http://www.articlesnatch.com/Article/The-Advantages-Of-Individual-Sports-Over-Team-Sports/664911>).
- [13] Fischman, M. & Oxendine, J. 1998. Motor skill learning for effective coaching and performance. In J. Williams (Ed.), *Applied Sport Psychology*. New York: Macmillan.
- [14] Hagger, M. & Chatzisarantis, N. 2005. *Social Psychology of Exercise and Sport*. New York: McGraw-Hill.
- [15] Heather B. 2010. Psychology: motivation, anxiety, confidence and goal setting. (<http://www.soccernh.org/LinkClick.aspx?fileticket=z-jKZpam25k%3D&tabid=4766>).

- [16] Humara, M. (2000). Personnel selection in athletic programs. *Athletic insight*, 2 (2). Retrieved October 15, 2007, from www.athleticinsight.com/Vol2Iss2/Personnel.htm.
- [17] Hyllegard, R., Radlo, S., & Early, D. (2001). Attribution of athletic expertise by college coaches. *Perceptual and Motor Skills*, 92,1, 193-207
- [18] Jerome, G. J. & Williams, J.M. 2000. Intensity and interpretation of competitive state anxiety:
- [19] Relationship to performance and repressive coping. *Journal of Applied Sport Psychology* 12: 236-250.
- [20] LeUnes, A.D. & Nation, J.R 2001. *Sport Psychology: An Introduction*. Chicago, IL: Nelson-Hall.
- [21] Libster D, Heled Y, Shapiro Y, Epstein Y. 1999. Physiological aspects of women in combat. *Harefuah*, 137(11): 521-525.
- [22] Lewinsohn, P. M., Gotlib, I. H., Lewinsohn, M, Seeley, J. R. & Allen, N. B. 1998.
- [23] Gender differences in anxiety disorders and anxiety symptoms in adolescent. *Journal of Abnormal Psychology*, 107(1), 109-117.
- [24] Lloyd, P. & Mayes, A. 1999. *Introduction to psychology: An integrated approach*. London: Diamond books.
- [25] Majlis Sukan Universiti Malaysia, 2012. (<http://www.masum.org.my/maklumat.html>).
- [26] Maldonado-Martin S, Mujika I, Padilla S.2004. Physiological variables to use in the gender comparison in highly trained runners. *J Sports Med Phys Fitness*. 44(1):8-14.
- [27] Montgomery, B., & Morris, L. 1994. *Living with anxiety*. Singapore: Heinemann Asia.
- [28] Nesti, M. 2004. *Existential Psychology and Sport: Theory and Application*. New York: Routledge.
- [29] Patton, J.F, Daniels, W.L, Vogel, J.A. 1980. Aerobic power and body fat of men and women during army basic training. *Aviat. Space Environ. Med.*;51(5):492-496.
- [30] Pragman, D. 1998. *Understanding sport psychology*. New Jersey: Prentice-Hall.
- [31] Raglin, J.S. & Hanin, Y.L. 2000. Competitive anxiety. In Yuri, L.H., *Emotions in Sport*. Champaign, IL: Human Kinetics.
- [32] Rodriguez, C. 2005. Can Sport Psychology help athletic performance by increasing mental toughness through decreasing anxiety? *Health Psychology Homepage*. <http://healthpsych.psy.vanderbilt.edu/MentalTough.htm>.
- [33] Scanlan, T. K. 1984. Competitive stress and the child athlete. In J. M. Silva & R. S. Weiberg (Eds.), *Psychological foundations of sport*. Champaign, IL: Human Kinetics.
- [34] Stander, 2013. Differences between men and women. *The Athletics Omnibus*. (<http://www.bolandathletics.com/4-5%20The%20difference%20between%20men%20and%20women.pdf>).
- [35] Thatcher, J., Thatcher, R. & Dorling, D. 2004. Gender differences in the pre-competition temporal patterning of anxiety and hormonal responses. *Journal of Sports Medicine Physical Fitness*, 44, 300-308.
- [36] Trost, S.G., Pate, R.R., Sallis, J.F., Freedson, J.F., Taylor, W.C., Dowda, M & Sirard, J. 2002. Age and gender differences in objectively measured physical activity in youth. *Medicine and Science in Sports and Exercise*. 34(2): 350-355.
- [37] Weinberg, R.S. & Gould, D. 2011. *Foundations of Sport and Exercise Psychology*. Champaign, IL: Human Kinetics.
- [38] Women Web, 2004. *Women's Athletics, Not a Man's Sport*. (1010.womenweb.org.tw/Page_Show.asp?Page_ID=181).
- [39] Williams, O. MAY 02. 2012. London 2012: GB women win first game on Olympic pitch. *BBC Sport at the London Olympic Park*. (<http://www.bbc.co.uk/sport/0/olympics/17926116>).