



## Comparison of Athletes Personality between Martial Art Sports in Central Java

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### ABSTRACT

Sports Psychology especially concerning emotional mental processes of athletes become increasingly decisive contributor in coaching and athlete performance improvement. There are differences in personality characteristics of each sport. This study compared athletes' personality characteristics in 4(four) martial art athletes in PPLOP of Central Java Province, Indonesia (Taekwondo, PencakSilat, Judo, and Karate). 31 athletes (11 taekwondo, 10 pencaksilat, 5 judo, 5 karate, 18 males, and 13 females) completed the SPQ-20 Sport Personality Questionnaire. This questionnaire is composed of four sub- scales of 20 personality traits. Data were collected by questionnaire and statistical analysis was performed with SPSS software. In order to describe the data, used descriptive for comparing the averages, used the test of MANOVA with post hoc of Games-Howell. The results revealed that karate athletes scored significantly higher on achievement, conscientiousness, visualization, intuition, goal setting, managing pressure, self-efficacy, fear of failure, flow, emotion, self-talk, self-awareness, ethics, empathy, relationship and impression management. Pencaksilat athletes scored significantly higher on adaptability, stress management, power and aggressiveness. Taekwondo has highest average only on competitiveness variable. It can be concluded that athletes' personality characteristics are different between martial art sports.

**KEYWORDS:** personality, martial art, psychology

### INTRODUCTION

The appearance of an athlete is an interaction between several factors, such as technical, tactical, physical and mental aspects (Jones, Hanton, & Connaughton, 2002; Boomba & Haff, 2009; Stolen et al., 2005). The research in the psychological aspects show that there are personality differences between wrestlers, swimmers, baseball athletes, basketball athletes and football athletes (Singgih et al, 1996). Along with this, Singer (in Cox, 2002) says that based on observations made on baseball athletes and tennis athletes, there were differences in personality aspects of team sport with individual sports athletes. Other research conducted on soccer, wrestling, gymnastics and karate shows that the personality characteristics of the athletes are different (Kroll & Crenshaw, in Singer, Murphey, & Tennant, 1993). According to Williams and Reilly (2000) based on the results of the study of the sport of football there are some psychological characteristics that need to be possessed by young athletes, namely control of the level of arousal, high confidence, focus on high tasks and the capacity to perform fully spirit. While sports psychology studies specifically on martial arts have been reviewed in previous studies (Fuller, 1988), the benefits of martial training reviews (Martin, 2006), and reviews of

psychological outcomes for youth martial training (Vertonghen & Theeboom, 2010).

Research conducted by Schure, Asley, and Joy (in Cox, 2002) shows clearly that personality profile of team sports athletes differ from individual sports athletes, and between athletes who play in direct-interaction sports teams (eg basketball) and interactions direct (eg volleyball). In general, team sports athletes have more anxious, dependent, open, and alert characters, but are less sensitive and imaginative than athletes in individual sports. Sports athletes with direct interaction (eg football), they are more independent and unselfish than athletes from indirect interaction sports (eg volleyball). There are differences in personality characteristics between martial art and gender (Kavoura et al, 2012). Various literatures show that athletes from one sport are different in character and personality types compared to athletes from other sports (Cox, 2002).

The literature review above shows that the psychological aspects affecting athlete performance differ from each other. Grossarth-Maticek, Eysenck, Rieder, and Rakic (1990) illustrate psychological factors related to success in soccer and boxing athletes. Meyers, LeUnes, and Bourgeois (1996) reported that rodeo elite athlete scores were higher than non-elite athletes in motivation, anxiety control, and

concentration, as did Cox, Liu, and Qiu (1996) studies of elite athletes in China found that elite athletes had higher scores in terms of trust and anxiety control. Cox and Liu (1993) found that elite athletes have confidence and can control anxiety. The psychological aspects that are necessary and influential on the performance of martial arts (pencak silat, taekwondo, etc.) are concentration, anticipation, emotional control, self-control, confidence and fighting power (Anshel & Payne, 2006). Zinseer, Bunker, and Williams (2001) say that optimism is important for martial art athletes because it will have an impact on improving fighting power, concentration, and focus on attention.

It is alleged that the differences occurred because of the factors of competing experience, the training process, the skill level, the age factor, and the task of motion that must be performed between different sports with each other. Similarly, between sports teams with individual sports. Characteristics of the game, the nature of the sport contained in the sports team will be different from the characteristics and sports characteristics contained in individual sports. Other studies confirm that there are differences in psychological skills between individual sports and team sports (Cox & Liu, 1993, Feltz & Ewing, 1987) and between sexes (Chantal, Guay, Debreva, Martinova, & Vallerand, 1996; MacIntyre, Mahoney & Moran, 1998; Sewell & Edmondson, 1996; White, 1993).

The personality profile comparison between martial art athletes must remain as research object; however, methodological cautions and the research’s external validity must be considered in the analysis of results and in the conclusions presented. It is worth emphasizing that there should not be a single group of athletes, but several subgroups that need to be delimited in researches. In this context, the present study presents to compare personality characteristics between martial art athletes (Karate, Pencak Silat, Taekwondo and Judo), verifying similarities and differences between groups.

**METHODOLOGY**

**Study Design and Sampling Procedure**

The method used in this research is survey method with ex post facto research design. This is used to determine the psychological condition of athletes PPLOP Central Java. A total of 31 athletes (women, n=13 and men, n=18) from four martial art provincial athletes of Central Java (karate, pencak silat, taekwondo and judo) composed the sample. All individuals were informed about the objectives of the research and that data would only be used for research

purposes and generally analyzed, and they signed a consent form to participate in this study. Samples obtained from athletes who are at the Central Training Center for Student Sport (PPLOP) of Central Java province (karate=5, pencak silat=10, taekwondo=11, judo=5).

**Instrument Development and Data Collection Procedure**

The instrument used was the reviewed Indonesian version of the Sport Personality Questionnaires (SPQ-20) (myskill profile.com) containing 168 questions with response possibilities statement describes their behavior using a 5-point Likert Scale (never/almost never, occasionally, fairly often, very often and always/almost always), and being applied just once, and also have 0,6 to 0,8 scale reliabilities (Myskill profile, 2016). The SPQ20 assesses 20 dimensions of mental toughness covering 4 key areas: confidence and resilience, achievement drive and competitiveness, power and aggressiveness, and interaction and sportsmanship.

Procedure Questionnaires were administered to subjects within 15-20 minutes and the nature of study was described at the top of the questionnaire to the subjects. Each questionnaire took approximately 30 second to complete. Subjects who had completed the personal information section represented that they had given their consent to provide the data under the condition of anonymity. Investigator collected the questionnaires from each coach after completing the questionnaire. A total of 31 questionnaires were collected.

**Data Processing and Analysis**

For the analysis of the personality traits comparison between martial art athletes, the descriptive analysis was initially used (average and standard deviation) for the behavior of each variable to be studied. Later, after making sure the normality of data using Kolmogorov-Smirnov test. Multivariate Analysis of Variance (MANOVA), at the significance level of 0,05 was used in order to determine the differences between study groups. The statistical program used was the SPSS version 19.0.

**RESULTS**

**Socio-demographic characteristics**

The socio-demographic sample is shown in Table 1, ie: the total number of samples of 31 athletes (women, n=13 and men, n=18) from four (4) martial art provincial athletes of Central Java, 5 karate athletes (m=1, f=4), 10 pencak silat athletes (m=7, f=3), 11 taekwondo athletes (m=7, f=11), and 5 judo athletes (m=3, f=2).

**Table 1.** General characteristics of the sample (n=31)

Characteristics	Karate	PencakSilat	Taekwondo	Judo	General
n (Total)	5	10	11	5	31
n (Male)	1	7	7	3	18
n (Female)	4	3	4	2	13
Average age (years)	15,80 ± 1,64	16,00 ± 1,05	16,36 ± 0,67	15,40 ± 0,89	16,00 ± 1,03

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Can be seen in table 2 there are many differences in each group based on the average score. Karate has the highest average compared to 3 other martial arts, that is on the variable: achievement (3.87), conscientiousness (3.80), visualization (4.14), intuition (3.38), goal-setting (4.04), managing pressure (3.40), self-efficacy (3.90), fear of failure

(3.84), flow (4.04), emotion (3.37), self-talk (4.45), self-awareness (3.96), ethics (4.50), empathy (3.85), relationship (3.69) and impression management (3.55). Next, pencaksilat has the highest mean on: adaptability (3.79), stress management (3.80), power (3.50) and aggressiveness (2.99). Taekwondo has highest average only on competitiveness variable (4.07).

**Table 2.** The study of mean difference between research groups in the personality characteristics

Variable/groups	General X ± SD	Karate X ± SD	PencakSilat X ± SD	Taekwondo X ± SD	Judo X ± SD	F	Sig.
Achievement	3,54 ± 0,40	3,87 ± 0,25	3,63 ± 0,48	3,47 ± 0,26	3,17 ± 0,33	3,585	<b>,027</b>
Adaptability	3,64 ± 0,48	3,73 ± 0,52	3,79 ± 0,56	3,52 ± 0,47	3,51 ± 0,30	,685	,569
Competitiveness	3,87 ± 0,40	3,93 ± 0,48	3,89 ± 0,30	4,07 ± 2,33	3,35 ± 0,15	5,469	<b>,005*</b>
Conscientiousness	3,68 ± 0,40	3,80 ± 0,24	3,66 ± 0,35	3,64 ± 0,45	3,68 ± 0,56	,189	,903
Visualization	3,77 ± 0,58	4,14 ± 0,36	3,93 ± 0,49	3,64 ± 0,52	3,37 ± 0,82	2,140	,118
Intuition	3,25 ± 0,27	3,38 ± 0,29	3,16 ± 0,32	3,23 ± 0,18	3,36 ± 0,28	1,077	,375
Goal-setting	3,61 ± 0,46	4,04 ± 0,45	3,55 ± 0,47	3,57 ± 0,37	3,49 ± 0,51	1,858	,161
Managing Pressure	3,14 ± 0,42	3,40 ± 0,35	3,13 ± 0,35	3,19 ± 0,44	2,78 ± 0,47	2,097	,124
Self-Efficacy	3,57 ± 0,45	3,90 ± 0,22	3,67 ± 0,46	3,52 ± 0,44	3,17 ± 0,44	2,796	,059
Fear of Failure	3,40 ± 0,51	3,84 ± 0,26	3,42 ± 0,66	3,24 ± 0,45	3,28 ± 0,18	1,900	,153
Flow	3,67 ± 0,49	4,04 ± 0,30	3,74 ± 0,53	3,60 ± 0,51	3,32 ± 0,36	2,127	,120
Stress Management	3,66 ± 0,32	3,65 ± 0,39	3,80 ± 0,36	3,64 ± 0,25	3,40 ± 0,16	1,962	,143
Emotion	3,28 ± 0,40	3,37 ± 0,40	3,18 ± 0,46	3,36 ± 0,36	3,20 ± 0,41	,475	,702
Self-talk	4,15 ± 0,54	4,45 ± 0,23	4,17 ± 0,38	4,18 ± 0,57	3,75 ± 0,85	1,489	,240
Self-awareness	3,84 ± 0,46	3,96 ± 0,44	3,84 ± 0,46	3,79 ± 0,53	3,80 ± 0,41	,154	,926
Ethics	4,42 ± 0,53	4,50 ± 0,26	4,18 ± 0,47	4,32 ± 0,64	3,90 ± 0,51	1,217	,322
Empathy	3,35 ± 0,42	3,85 ± 0,30	3,08 ± 0,34	3,38 ± 0,42	3,35 ± 0,17	5,433	<b>,005*</b>
Relationship	3,45 ± 0,28	3,69 ± 0,31	3,50 ± 0,21	3,38 ± 0,26	3,25 ± 0,26	3,019	<b>,047*</b>
Power	2,81 ± 0,53	3,24 ± 0,22	3,50 ± 0,21	3,38 ± 0,26	3,25 ± 0,26	3,947	<b>,019*</b>
Aggressiveness	2,69 ± 0,52	2,33 ± 0,66	2,99 ± 0,47	2,75 ± 0,43	2,30 ± 0,23	3,666	<b>,025*</b>
Impression Management	3,35 ± 0,40	3,55 ± 0,19	3,33 ± 0,54	3,30 ± 0,37	3,30 ± 0,31	,496	,688

•(\* sig. < 0.05/\*\* sig. < 0.01/\*\*\* sig.< 0.001).

The table shows the results of Multivariate Variance Analysis (MANOVA) differences between martial arts groups (karate, pencaksilat, taekwondo and judo). Significant differences between factors: Achievement (sig <0.05), Competitiveness (sig <0.05), Empathy (sig <0.05), Relation (sig <0.05), Strength (sig <0.05) and Aggressiveness (sig. <0.05). And there are insignificant differences in other variables: Adaptability, Conscientiousness, Visualization, Intuition, Goal-setting, Managing Pressure, Self-Efficacy, Fear of Failure, Flow, Stress Management, Emotion, Self-talk, Self-awareness, Ethics and Impression Management.

**DISCUSSION**

The data obtained in this study are not agreement with findings of Javier et all (2013) and Björkqvistand Varhama (2001), who verified that karate has a highest power and

aggressiveness than kung-fu, taekwondo and other martial arts. Pencaksilat is higher than karate, these score that seems surprised to the relationship because it is different from other research, but need explanation pencaksilat is indigenous martial sports in indonesia, so that it can be according to result of research.

Environmental factors have an influence that makes a person similar to others because of the various experiences that he experienced. Environmental factors consist of cultural factors, social class, family, peers, and situations. Among the environmental factors that have a significant influence on personality are individual experiences as a result of a particular culture. Each culture has its own rules and sanction patterns of learned behavior, rituals and beliefs. This means that each member of a culture will have certain common personality characteristics (Pervin & John, 2001).

Comparing with other studies conducted by Martin 2006, who investigated and compared athletes between martial art,

the data found in the present study corroborate the fact that karate are more achieve and control emotion with other. There are also differences with data obtained by Auweele et al (2001) and Morgan and Costill (1996) for variable Achievement, Competitiveness, Empathy, Relation, Strength and Aggressiveness that presented no significant variations, while for the mentioned authors, team sports athletes were characterized by being more extroverted and by the fact that athletes presented lower stress level, which contrasted with data found in the present study.

It is worth mentioning that the inconsistency of results and conclusions in the personality comparisons of athletes and non-athletes, generated by a series of studies performed during many years, was caused by many reasons. Among them, one may mention the use of different research instruments (EPQ, 16 PF, FPI, POMS, EPI, and now SPQ20) that measure different variables not allowing significant comparison between 3winstruments. The amount of intervenient variables (social, educational and economic) is surely source of distinct and inconsistent results. For this reason, the present study narrowed the sample of provincial athletes.

Despite the results of the present study are shown to be inconsistent, the understanding of its limitations becomes necessary. One of the limiting factors lies in the fact that the sample of PPLOP athletes is limited to only four modalities (karate, pencaksilat, taekwondo and judo). The sportive universe is extremely wide with countless sportive modalities. Thus, differences found between groups of each martial art sports studied must be understood.

In this context, the sample of non-athletes selected for the present study does not represent necessarily the entire population, once there are several ranges of age, social classes, educational level among others, variables that make the data generalization difficult. Therefore, the results found must be considered as indicative of possible differences between athletes in each martial art sport populations, but in order for these results to be pointed as constant for the entire population, further studies must be conducted.

Other limitation of the present study is the lack of knowledge of researches on the personality of PPLOP Central Java, Indonesia athletes performed with the SPQ-20. This makes difficult the discussion of results that were compared with similar personality dimensions researched through other research instruments. This aspect may be considered as a limiting factor for personality studies, once finding traits that identify a given study group becomes more and more difficult.

## CONCLUSION

The objective of the present study was to compare personality characteristics between martial art athletes in karate, pencaksilat, taekwondo and judo, also presented results that contrasted with findings of studies previously performed. However, it became clear that athletes are

significantly distinguished in most psychological variables studied. One could observe based on the results found, that athletes on each martial art are constantly distinguished. This verification indicates consistence of the data collected and points to a possible generalization of differences between individuals from both groups; fact that deserves further investigations.

In order for the personality traits of high-level athletes to be better studied and scientifically understood, and for a better knowledge development on this area, some studies with the following to pics are suggested:

- To enlarge the amount of sportive modalities (ex.: artistic and rhythmic gymnastics, diving, equestrian, sailing and nature sports) researched for a better verification of the comparison between each other, as well as between athletes and non-athletes;
- Longitudinal studies that allow evaluating the development of the athlete's personality since first years until high-level is reached;
- To compare athletes from distinct performance levels with different samples of non-athletes for a better establishment of differences in which extracts appear more clearly.

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