

Personality of karate competitors due to their sport specialization

Authors' Contribution:

- A Study Design
- B Data Collection
- C Statistical Analysis
- D Manuscript Preparation
- E Funds Collection

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Abstract

Background and Study Aim:

Karate competitions take place in the kata and kumite competitions. Karate athletes, depending on their preferences in the training process, focus on specializing in kata or kumite. Karate shapes the personality of practitioners. Therefore, the purpose of this work was to answer the question: whether the personality of athletes with different sports specialization is identical (similar).

Material and Methods:

The subjects of the study were 122 competitors (men) of the Polish Karate Federation in four groups: kata athletes shotokan style (n = 31), kumite fighters shotokan style (n = 31), kata athletes kyokushin style (n = 30), kumite fighters kyokushin style (n = 30). The age of the respondents ranged between 20 and 29 years of age. Their seniority was between 2 and 12 years. The karatekas rank was between 3 kyu and 3 dan.

Results:

There are no statistically significant difference between the study groups. The compared groups are similar in all scales.

Conclusions:

The personality of karatekas specializing in kata is no different from the personality of karatekas specializing in kumite. There are also no differences in the personality of the competitors between the representatives of the shotokan style and the kyokushin style.

Keywords:

budo • combat sports • kata • kumite • martial arts • NEO-FFI

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Authors have declared that no competing interest exists

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Martial arts – plural noun

any of various systems of combat and self-defence, e.g. judo or karate, developed especially in Japan and Korea and now usually practised as a sport [96].

Combat sport – noun

a sport in which one person fights another, e.g. wrestling, boxing and the martial arts [96] – “every combat sport is martial arts but not vice versa” [2, p. 18].

Kata (form) – is executed as

a specified series of a variety of moves, with stepping and turning, while attempting to maintain perfect form. Kata displays a transition and flow from one posture and movement to another, teaching the karateka proper form and position, and encouraging them to visualize different scenarios for the use of each motion and technique in imaginary bout. There are various forms of kata developed through different karate styles.

Kumite – is a semi-

contact karate competitive concurrence, where two athletes perform various kicking, punching and blocking techniques towards each other with maximum control in order to gain points and win the match. Destruction is fictive.

Tactics – plural noun

the art of finding and implementing means to achieve immediate or short-term aims [96].

Technique – noun

a way of performing an action [96].

Skill – noun

an ability to do perform an action well, acquired by training [96].

Knockout – noun 1. (in boxing)

a punch that knocks an opponent down for a count of ten and so wins a contest 2. a sports competition in which a person or team beaten in one game or match is eliminated from the entire competition [96].

Self-discipline – noun

the ability to do what is necessary or sensible without needing to be urged by someone else [96].

Dan (dan'ī) – a term used to

denote one's technical level or grade [50].

Kyū – the series of grades that

precede *dan* ranks. *Ikkyū* is the grade immediately below *shodan* [50].

INTRODUCTION

Karate is currently one of the most popular martial arts in the world. The strength of karate is demonstrated by the number of style variations of this martial art and hundreds of practitioners. And sport competition has developed into the status of Olympic discipline [1] and is identical to the theory of combat sports [2]. Victory over the opponent is primarily determined by technical and tactical skills [3, 4], not the level of aggressiveness of the athletes [5].

Kata and kumite competitions are played at karate tournaments [6]. Each karate style is characterized by kata specific to the given variety due to the resources of kime techniques and accent. Kata is a set of predetermined moves that presents the fight against imaginary opponents. Hangman competitions are referred to as “bug games”; at tournaments the athlete who wins the system more precisely and thus makes fewer mistakes [7, 8]. And kumite sports competition can take place in four formulas, i.e. semi contact, full contact, mix fighting, knockdown. These styles have adopted those kumite formulas that are adequate to the philosophy of fighting a particular karate variety [9]. For example, the shotokan style prefers kumite games in the semi contact system, i.e. fight for points in limited contact – attacks with arms and legs on the head and torso, as well as undercuts and throws are allowed [10]; while the kyokushin style plays kumite in the knockdown (knockout) system, i.e. a contact fight in which the athlete seeks to finish by knock down his opponent – attacks with his arms on the torso and legs on the head, torso and thighs are allowed [11]. Therefore, combat and system training are distinctive for specific karate styles. But the philosophy and mental sphere of karate is more than stylish [12]. That is why the karate personality is one of the basic elements of this combat sport [13, 14]. It is sports competition that creates the conditions for improving the personality of athletes, their approach to competition and spiritual self-improvement. Sport gives karate the opportunity to better understand many situations from other spheres of life and basic moral rules [15]. Thanks to it, a person can face their weaknesses, lack of motivation, and each facing weaknesses gives a person more faith in himself [16].

Karate's belonging to the world of sport has a huge impact on the personality of practitioners [17–21]. Therefore, it is reasonable to

verify the personality of athletes specializing in kata and competitors specializing in kumite. Therefore, the purpose of this work was to answer the question: whether the personality of athletes with different sports specialization is identical (similar). Namely, at the root of this question is an assumption: if the utilitarian values of sport affect karate athletes, then their personality, regardless of the form of sport competition, should be the same (similar).

MATERIAL AND METHODS

Participants

The subject of the experiment were competitors (men) associated in the Polish Karate Federation. 122 athletes in four groups were tested: kata shotokan athletes (n = 31), kumite shotokan fighters (n = 31), kata kyokushin athletes (n = 30), kumite kyokushin fighters (n = 30). The age of the respondents ranged between 20 and 29 years of age, while the professional experience of the subjects was in the range of 2 to 12 years. The level of advancement of the respondents was from 3 kyu to 3 dan. All four samples included medalists from prestigious international tournaments. Other selection criteria are many years of sports experience, current competitor license, impeccable trainer feedback, documented sporting achievements.

Tool and procedure

The work uses the NEO-FFI Personality Questionnaire as a research method, the technique was an individual questionnaire, and the questionnaire was a tool. The NEO-FFI Personality Inventory is used to diagnose personality traits included in the popular five-factor model, known as the “Big Five” model. The items in the questionnaire are 60 self-descriptive statements, the truthfulness of which in relation to themselves was rated by the respondents on a five-point scale: 1 – “definitely not”; 2 – “rather not”; 3 – “I have no opinion”; 4 – “rather yes”; 5 – “definitely yes”. These items are made up of 5 measuring scales marked with abbreviations formed from the first letters of the English factor names: openness to experience, conscientiousness, extraversion, agreeableness and neuroticism, of which OCEAN is the most popular, CANOE or NEOAC. In the Polish adaptation of the NEO-FFI questionnaire, as well as for the needs of this study, the acronym NEOAC was adopted, i.e. the following order of scales: neuroticism, extraversion, openness to

experience, agreeableness and conscientiousness. NEOAC factors are real. They are characterized by invariance. They are universal and have a biological basis [22].

The structure of neuroticism consists of anxiety, aggressive hostility, depression, impulsiveness, hypersensitivity, shyness and reflects emotional adjustment and the opposite emotional image, i.e. a tendency to experience negative emotions and susceptibility to psychological stress. The extroversion indicator was expressed by sociability, cordiality, assertiveness, activity, sensation seeking, positive emotionality understood as the quality and quantity of social interactions, the level of activity, energy, as well as the ability to experience positive emotions. The scale of openness to experience includes imagination, aesthetics, feelings, action, ideas, and values that indicate a tendency to positively evaluate life experiences, tolerance to novelty and cognitive curiosity. A marker of agreeableness creates trust, straightforwardness, altruism, concession, modesty, and a tendency to be affectionate. Positive and negative attitudes to other people were described, manifested in altruism and opposite antagonism. And the scale of diligence includes competences, a tendency to order, duty, commitment to achievement, self-discipline, prudence, which reflects the degree of organization, perseverance and motivation of the individual in goal-oriented activities [23].

The NEO-FFI Personality Questionnaire is internally compliant. Accuracy was demonstrated on the basis of research on the relationship between the results of the questionnaire and the evaluations of the subjects made by observers, the heritability of the measured features and their correlation with other personality and temperament dimensions. Factor relevance was also verified. The NEO-FFI Personality Questionnaire has ten norms for 5 age groups (15-19, 20-29, 30-39, 40-49, 50-80), developed separately for men and women on the basis of large population samples. The results allow a full description of the personality of the respondents and forecast their adaptability to the professional environment [24].

The research was conducted between June and December 2019. The cognitive experiment was carried out during training seminars, staff groupings, sports camps, sports competitions. Each respondent agreed to undergo a cognitive experiment after getting acquainted with

the information on the objectives and principles of conducting, expected effects and possible benefits for those participating in the study. The respondents had an hour of time to work with the NEO-FFI Personality Questionnaire. The research was carried out in groups of up to 10 people. After the cognitive experiment was carried out, the participants' data were coded.

Statistical analysis

Statistical analysis was performed using the IBM SPSS Statistics 25 software, with the help of which descriptive statistics were calculated and the Student's *t* test was carried out for independent samples. The level of statistical significance was $p = 0.05$.

The estimation of the results is based on the following indicators: mean (M); standard deviation (SD); standard error (SE); minimum (Min); Maximum (Max); distribution, F-Snedecor statistics, result of the analysis of variance (*F*); significance level, probability (*p*).

RESULTS

There are no differences in the severity of individual personality traits among shotokan and kyokushin karatekas specializing in kata or kumite. The results of the analyzes showed no significant statistical differences between the examined groups in the scales of neuroticism, extraversion, openness to experience, agreeableness and conscientiousness (Table 1-5).

The results showed no differences within the study groups (Table 6). The compared groups are similar in all scales. There are no significant statistical differences between the study groups (Figure 1).

DISCUSSION

The results of the analyzes showed no significant statistical differences between the examined groups in the scales of neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. Comparing the obtained results with the research of other authors [25-48], one can notice the personality profiles of karatekas specializing in kata or kumite are similar to the personality profiles of athletes from other sports. Namely: the personality profile of athletes is low neuroticism, high extraversion and conscientiousness,

Budo (Budō) – originally a term denoting the "Way of the warrior", it is now used as a collective appellation for modern martial arts of *kendō*, *jūdō*, *kyūdō* and so on. The primary objective of these "martial ways" is self-perfection (*ningen-kesei*) [50].

Aggressiveness – a human characteristic manifesting itself in inclinations to hurt others, to destructive behaviour.

Aggressive = virulent, truculent, attacking [97].

Anxiety – *noun* the state of being very worried and afraid [96].

Depression – *noun 1.* a psychiatric disorder showing symptoms such as persistent feelings of hopelessness, dejection, poor concentration, lack of energy, inability to sleep and, sometimes, suicidal tendencies **2.** the act of lowering a limb [96].

Table 1. Descriptive statistics for neuroticism.

| Competitors | M | SD | SE | 95% confidence interval for the average | | Min | Max |
|------------------|-------|-------|------|---|-------------|-----|-----|
| | | | | Lower limit | Upper limit | | |
| Shotokan kata | 15.55 | 8.19 | 1.47 | 12.54 | 18.55 | 3 | 41 |
| Shotokan kumite | 16.61 | 10.39 | 1.87 | 12.80 | 20.42 | 1 | 38 |
| Kyokushin kata | 15.67 | 7.50 | 1.37 | 12.86 | 18.47 | 3 | 37 |
| Kyokushin kumite | 14.07 | 7.20 | 1.31 | 11.38 | 16.75 | 2 | 27 |

Table 2. Descriptive statistics for extraversion.

| Competitors | M | SD | SE | 95% confidence interval for the average | | Mini | Max |
|------------------|-------|------|------|---|-------------|------|-----|
| | | | | Lower limit | Upper limit | | |
| Shotokan kata | 32.61 | 5.48 | 0.98 | 30.60 | 34.62 | 22 | 42 |
| Shotokan kumite | 31.16 | 6.76 | 1.21 | 28.68 | 33.64 | 18 | 47 |
| Kyokushin kata | 33.60 | 5.49 | 1.00 | 31.55 | 35.65 | 23 | 44 |
| Kyokushin kumite | 31.73 | 5.78 | 1.05 | 29.58 | 33.89 | 17 | 40 |

Table 3. Descriptive statistics for openness to experience.

| Competitors | M | SD | SE | 95% confidence interval for the average | | Mini | Max |
|------------------|-------|------|------|---|-------------|------|-----|
| | | | | Lower limit | Upper limit | | |
| Shotokan kata | 25.39 | 4.88 | 0.87 | 23.60 | 27.17 | 17 | 37 |
| Shotokan kumite | 26.58 | 7.02 | 1.26 | 24.01 | 29.15 | 10 | 40 |
| Kyokushin kata | 26.07 | 3.99 | 0.73 | 24.58 | 27.56 | 18 | 35 |
| Kyokushin kumite | 24.60 | 6.01 | 1.10 | 22.35 | 26.85 | 13 | 37 |

Table 4. Descriptive statistics for agreeableness.

| Competitors | M | SD | SE | 95% confidence interval for the average | | Mini | Max |
|------------------|-------|------|------|---|-------------|------|-----|
| | | | | Lower limit | Upper limit | | |
| Shotokan kata | 28.16 | 4.89 | 0.88 | 26.37 | 29.96 | 15 | 35 |
| Shotokan kumite | 28.84 | 4.38 | 0.79 | 27.23 | 30.45 | 16 | 35 |
| Kyokushin kata | 28.90 | 5.71 | 1.04 | 26.77 | 31.03 | 19 | 41 |
| Kyokushin kumite | 28.10 | 5.54 | 1.01 | 26.03 | 30.17 | 16 | 39 |

Table 5. Descriptive statistics for conscientiousness.

| Competitors | M | SD | SE | 95% confidence interval for the average | | Min | Max |
|------------------|-------|------|------|---|-------------|-----|-----|
| | | | | Lower limit | Upper limit | | |
| Shotokan kata | 32.97 | 6.25 | 1.12 | 30.68 | 35.26 | 17 | 42 |
| Shotokan kumite | 34.68 | 6.86 | 1.23 | 32.16 | 37.19 | 23 | 47 |
| Kyokushin kata | 32.17 | 6.96 | 1.27 | 29.57 | 34.76 | 14 | 42 |
| Kyokushin kumite | 33.23 | 7.57 | 1.38 | 30.41 | 36.06 | 19 | 48 |

Table 6. Summary of strength of statistically significant differences in the studied groups. (N neuroticism. E extraversion. O openness to experience. A agreeableness. C conscientiousness).

| NEO-FFI | ANOVA | | Shotokan kata | | | Shotokan kumite | | Kyokushin kata |
|---------|-------|-------|-----------------|----------------|------------------|-----------------|------------------|------------------|
| | F | p | Shotokan kumite | Kyokushin kata | Kyokushin kumite | Kyokushin kata | Kyokushin kumite | Kyokushin kumite |
| N | 0.473 | 0.702 | 0.66 | 0.95 | 0.46 | 0.69 | 0.27 | 0.40 |
| E | 0.989 | 0.401 | 0.36 | 0.48 | 0.54 | 0.13 | 0.72 | 0.20 |
| O | 0.715 | 0.545 | 0.44 | 0.55 | 0.58 | 0.73 | 0.24 | 0.27 |
| A | 0.21 | 0.889 | 0.57 | 0.59 | 0.96 | 0.96 | 0.56 | 0.58 |
| C | 0.702 | 0.553 | 0.31 | 0.64 | 0.88 | 0.16 | 0.44 | 0.57 |

and average openness to experience and agreeableness. Therefore, we are of the opinion that this spot environment shapes the personality of sports people [49]. It should be emphasized that the role of the training regime, the specificity of sports disciplines, training and participation in sports competition, psycho-pedagogical influence of the trainer and the overall impact of the sports environment. The personality of athletes is shaped over many years of sports careers.

Sport sciences show that everyone can do sports, but not everyone has the opportunity train at the same level (in terms of the motor complexity of the exercises, extreme effort, mental involvement, methods and means, etc.). That is why we place a significant impact of budo values [50-52]

on a par with fair play principles. Today, attention is drawn to the concept of innovative agonology, where the basic means of human development (disregarding the language of innovative agonology [53, 54]) include selected combat sports and martial arts [55-58]. In addition to the obvious health and utilitarian benefits of training certain combat sports and martial arts (self-defense skills [59, 60], safe fall [61], collision avoidance [62, 63]), innovative agonology offers unique motor simulations [64, 65] and non-motoric simulation [66-68], fun forms of martial arts [69], non-apparatus and quasi-apparatus tests [70, 71], but also simple tools to measure somatic [72, 73], mental and social health [68, 74, 75] and survival ability [72, 76, 77]. For example, these simple tools are used to diagnose and

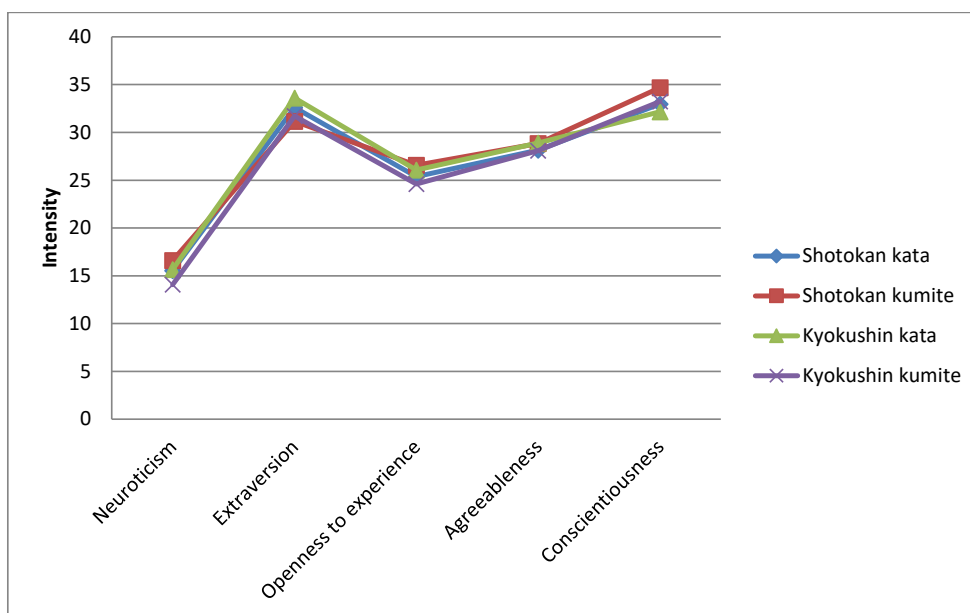


Figure 1. Graphical summary of obtained results of the studied groups.

reduce aggressiveness [66, 69, 78], diagnose susceptibility to injury during a fall [79-82]. The most effective and economic method of reducing death and disability associated with falls [83] has been empirically verified many times and described in reports on the effects of teaching people (including disabled and high-risk groups) to fall safely [63, 84, 85].

Regardless of the arguments presented above regarding the value of budo and the practice of innovative agonology, each person, regardless of training goals and practiced sport, shapes his personality through this activity [86-95]. The obtained

results provide new arguments about the health aspects of sports training in terms of personality development in the broad context of positive health through rational, long-term sports training.

CONCLUSIONS

The personality of karatekas specializing in kata is no different from the personality of karatekas specializing in kumite. There are also no differences in the personality of the competitors between the representatives of the shotokan style and the kyokushin style.

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