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Comparative analysis of psychic resilience of men and women training combat sports

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Abstract

In order to research psychic resilience among men and women practicing combat sports, the RS-13 Kareny Leppert test was conducted (at experimental level) among 37 men and 25 women. The significant increase of psychic resilience was observed in relation to years of training experience. There was also a dominant component pointed out, which differs, significantly, the male group from the female group.

Keywords: psychic resilience, aggression, martial art

Introduction

At the beginning the psychic resilience in sport was focused on the athlete's picture. With time and mind-boggling questions raised by researchers, the dominant one turned out to be the one concerning athlete's attitudes, namely: What characterizes their personalities?, How do they cope with emotions?, How to improve concentration skills? [1]. Researches on combat sports had proved before its relation with psychological issues. It is then suggested that the researches should be continue to present the relations between training combat sports and psychological issues [2,3]. One of the problems is the psychic resilience and its level among women and men training combat sports.

As Sabine Lebbihi said 'Doctors, psychologists, parents and teachers agree that training combat sports helps to keep equanimity for all: men, women and children of all ages and social status'. Equanimity is a key factor in everyone's life and most of all in athletes practicing combat sports. Equanimity is affected by many factors, which are very important as they strengthen athlete's mental power [4]. Combat sports not only influence our self-esteem, self-control, health and fitness, but it also requires from us psychic resilience [5]. Therefore, combat sports help equanimity,

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and hence strengthen athlete's mental power. So it can be said that combat sports not only require psychic resilience but also help to build it.

Also researches by Pietrzak i Cynarski on the above mentioned subject show that according to 'Bushidō Codex' martial art is not only body training but also widely understood the spirit of the warrior. Practitioners have the opportunity to enrich their character, mind and the ability to evaluate and problem-solving [6]. Because the man has its own personal abilities to react on different, sometime negative behaviours, it can be suggested that it depends on his psychic resilience, to be precise, on the flexibility of his psychic resilience.

Psychic resilience as a psychological term can be described as the ability to cope with stressful situations [7]. From the sport point of view, psychic resilience is seen as a kind of athlete's psychic disposition necessary to achieve well in sport [8,9,10]. To sum up, it must be said that psychic resilience is defined as a dynamic phenomenon covering the adaptation abilities to different circumstances [11]. It is reasonable to say that psychic resilience has the stabilizing effects that correlate with lower disturbances of 'Psyche' emitted by environment. It represents so called good psychic condition [12]. However, some of the researchers think that psychic resilience is a personal trait which protects man from experiencing too much stress and helps to cope with it [13]. These definitions show how difficult is to explicitly define psychic resilience because of perceiving it either as a fixed trait or a process of changing according to situations and life phase [14]. To meet the difficulties with defining psychic resilience, some of the researchers consider it as a multidimensional construct- understood from one side as a personal trait and from the other as the ability to cope with stress [15].

The authors decided to broaden the definition of psychic resilience by adding its components. In a form of experiment, subranges of the Resilience Scale Questionnaire were distinguished. Items grouping were proposed. The definition of the above mentioned components were proposed according to above mentioned authors [16].

Material and methods

The researches were conducted from June to December 2019 by completing an online survey including a metric and the Resilience Scale Questionnaire RS-13 that studies psychic resilience (ability to adopt), which was created by Karen Leppert's team from Clinic University in Jena, Germany. The test was derived from Christina Berndt's book 'Psychic resilience secrets. How to harden against stress, depression and professional burnout'. There were 37 men of different age, practicing combat sports (Judo, Brazilian Jiu Jitsu and Kickboxing) and 25 women practicing the same sports. The standardized questions about age and years of training experience were added. Altogether 62 people were tested. The authors decided to broaden the definition of psychic resilience/ flexibility by adding its components. In a form of experiment, subranges of the Resilience Scale Questionnaire were distinguished. Items grouping were proposed. It was decided that items 1,3,7 and 10 define the area of perseverance/ consequence; items 4,5,6,8 and 9 define self-esteem and items 2,11,12,13 define

sense of optimism. The definitions of the components were proposed in accordance to the definitions by the above mentioned authors [12].

Gathered material was statistically tested by Excel 2006 and Statistica 7.0. The normality of the distribution was tested by Shapiro-Wilk method. Average values of the resistance to stress and its components were gathered by gathering the comparisons tests 'T' for significant differences measured at the statistically important level $p < 0,05$. The regression analysis with marking the trend line and factor R^2 was performed and relative change of each of the component of psychic resilience/D/ was counted in order to find the factor determining the biggest difference between women and men. The authors pointed out that to measure self-esteem one additional question was added that influenced the total of the points. That is why, absolute values were not compared, only women' values were compared with men's values and relative change was counted.

Relative resilience change and its components were counted according to the formula:

$$D = -\left(\frac{S_1 - S_0}{S_1}\right) * 100\%$$

where

S_1 - female group value

S_0 - male group value

Results

The results were shown in tables/Tab. 1-2/ and on charts /Fig 1-4/

Tab. 1. Sociometric data of male and female groups training Judo, Brazilian Jui Jits and Kickboxing

	Record age (years)	Range (years)	Training experience (years)	Range (years)
Male group (n=37)	24,8±5,8	17-39	10,1±4,6*	3,5-20
Female group (n=25)	24.7±4,8	18-40	4,8±4,1*	0,5-15

* - statistically important differences at level $p < 0,05$ at the same columns

Tab. 2. Psychic resilience test results with its components and relative change of resilience components among male and female groups training Judo, Brazilian Jiu Jitsu and Kickboxing

	Male group	Female group
Total resilience components results	73,8±5,9*	69,7±8,4*
Range	65-89	45-83

Component: perseverance/ consequence	22,4±2,2*	20,5±3,1*
Range	19-26	12-25
Component: sense of optimism	22,7±2,1	22,2±2,8
Range	10-28	14-27
Component: self-esteem	28,8±2,5*	27,0±3,7*
Range	24-35	19-33
Relative change (%) – perseverance/ consequence	– Relative change (%) – sense of optimism	Relative change (%) – self-esteem
9,4	2,0	6,6

* - statistically important differences at level $p < 0,05$ at the same rows

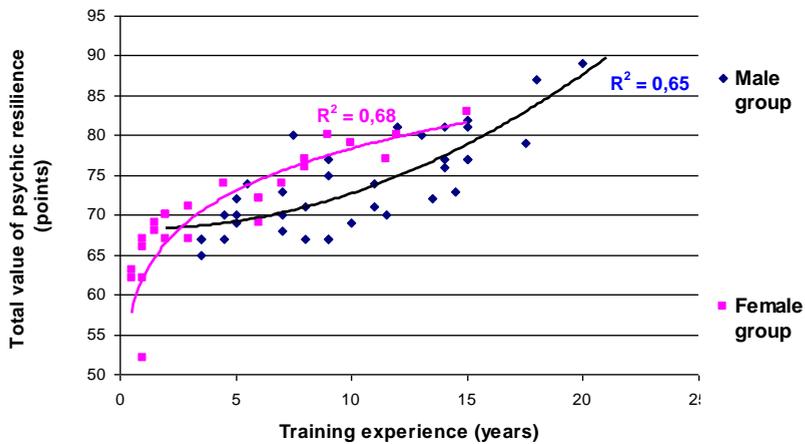


Fig. 1. Relation between the years of training experience and total value of psychic resilience in both groups

Fig. 1 shows that variable are linked in positive relationship, that is, together with the growth of training experience, the psychic resilience is also growing; however, differently in all researched groups. The determination factors $R^2=0,65$ and $R^2=0,68$ are significant at the high level.

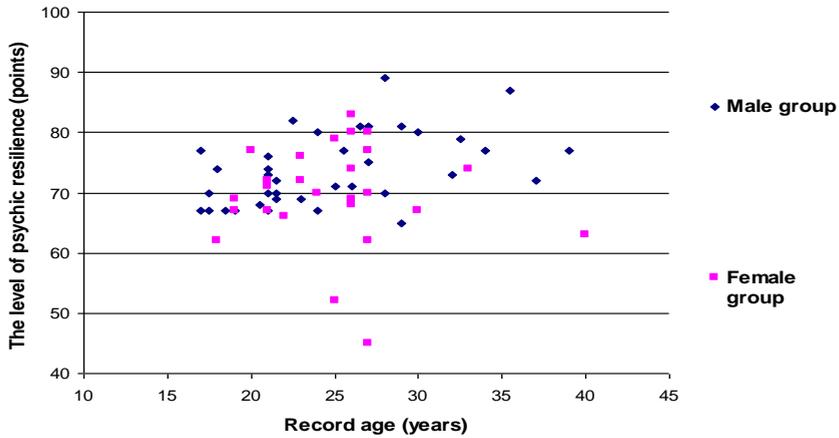


Fig. 2. Relation between psychic resilience and age- there is no relation seen at the chart

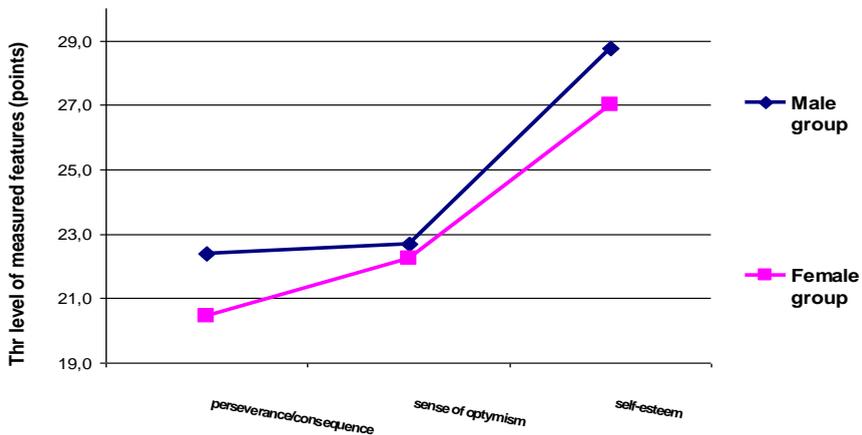


Fig. 3. Values of psychic resilience components (perseverance/ consequence, sense of optimism/ self-esteem)

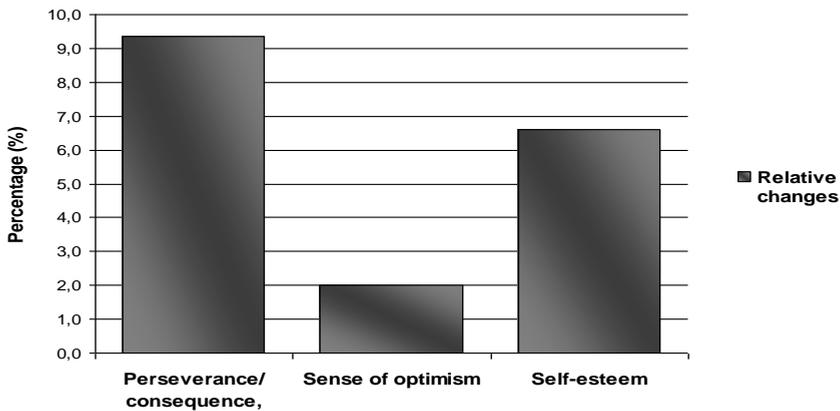


Fig. 4. Values of relative change of psychic resilience components shown in percentages

It is shown that the dominant component of psychic resilience, that differs female group from male, is perseverance/ consequence.

Discussion

Data presented in Tab. 1. suggests that the researched groups are at similar age what let the direct comparison. At the same time the training experience is significantly different in both groups; twice longer among male group than female, what can suggest the relation with value of psychic resilience, as well as, its way of change in time.

Data presented in Tab. 2. shows that total resilience and two of its components (perseverance/ consequence and self-esteem) are significantly higher in male group than female. On the other hand, sense of optimism is at the same level in both groups.

Numbers of researches conducted at different periods of time and different countries support that relation in case of total resilience [17,18,19]; on the other hand, in case of sense of optimism of young people, it was proven to be higher among women than men [20]. It must be mentioned that there are numerous publications about women and men's sense of optimism in reference to their life situation (health condition, material conditions, family relations, etc.). However, its subject goes beyond this publication.

Chart at Fig. 1. shows that along with the years of training experience, level of total psychic resilience also grows in both male and female groups at the statistically high level: $R^2=0,65$ for men and $R^2=0,68$ for women. It is especially seen among athletes with congenital or acquired disabilities [21], as well as, among traditional combat sports training where there are methods to improve resilience [22]. However, the trend line is of different shape for women and men, what means that those processes take place in different way. Among women there is a clear growth of

resilience in first 3 to 4 years of training. These issues can be explained by different years of trainings. At the same time, graph at Fig. 2 shows no relation between age and the level of psychic resilience in both groups. It proves that there is no relation with the natural aging process.

The shape of the line connecting components of total resilience at chart Fig. 3 does not show an even course (at different level). It suggests that there maybe is a dominant component of resilience which differs women training combat sports from men. Calculated (Tab. 2) with the use of relative change /D/ and presented at the chart /Fig.4/ the dominant factor is perseverance/ consequence. The result is different, however, in case of male and female athletes training Olympic Taekwondo, where women had higher values of personality components; although they were tested by another test [23]. The explanation of the above mentioned discrepancies suggests further verification with the use of other tests as the experimental form of testing resilience components, proposed in this publication, can be insufficient.

Conclusions

1. The long-term training experience contributes, in significant way, to strengthen human psychic what seems to compensate the changes connected with aging.
2. This phenomenon seems to have different dimension and course among women and men.
3. The most dominant component of psychic resilience that differs women from men is perseverance/ consequence, which is significantly higher among men.

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