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Rationale for mental training of elite wrestlers

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Abstract

Background and Study Aim. Ways of coping with stress and emotional intelligence are significant psychological variables which co-determine good health and effective functioning in various situations. Defining the level of these variables and their correlations will make it possible to get to know the psychological profile of wrestlers and formulate guidelines for mental training. The aim of the research presented in this work was the knowledge about the level of two variables (their dimensions and correlations between them), i.e. emotional intelligence and styles of coping with stress.

Material and Methods. The research included 40 Greco-Roman wrestlers aged 18-22 with training experience from 6 to 12 years. A questionnaire and two psychological examination methods, i.e. Coping Inventory for Stressful Situations (CISS) and Two-Dimensional Emotional Intelligence Inventory (DINEMO) were used in the research. An average level of the measured variables in wrestlers was noted. The distribution of proportions of the categories of low, average and high results as well as correlations between the variables suggested the necessity to undertake directed psycho-educational activities in the training process. Improving these characteristics will let wrestlers function more effectively in sports situations, especially in a sports fight, but also in non-sports situations, such as the period after they have retired from sport.

Results. Relatively lowest results were obtained in the scale measuring emotion-oriented style (the result lower than in the SSZ scale – $Z=-2.15$, $p=0.3$ and lower than in the SSU scale – $Z=-4.02$, $p=0.00$). Every fifth wrestler represented a high level of results in GEN scale, including one person who got the highest result of a sten of 10. In turn, ca. $\frac{3}{4}$ of the examined group obtained average results. Within OTHERS scale 3 participants obtained high results (at the level of a sten of 8), while the majority (i.e. 8 out of 10 participants) obtained average results. Two wrestlers obtained low results within ME scale, while nearly 30% of the participants had high results.

Conclusion. It is relevant to implement directed corrective, educational and prophylactic activities from the field of sports psychology into a training cycle. It is significant for wrestlers to be aware of the role of emotional intelligence and of the process of coping with stress. Equipping wrestlers with indispensable knowledge and mastering appropriate abilities will, in consequence, develop the desired competences. It will also improve the efficiency of functioning in sport as well as health and quality of life.

Key words: mental training • psychological profile • coping with stress

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INTRODUCTION

In recent years both in theory and in psychological practice attempts at explaining mechanisms connected with the process of coping with stress have been observed. According to the current definitions, coping with stress serves a regulative function and refers to sustaining a balance between the experienced requirements and the capabilities of an individual. Every person has a particular style of coping with stress which is understood as a relatively constant disposition for a definite and conscious way of reacting in difficult situations. Recognising the style of coping with stress and a detailed analysis of this phenomenon makes it possible to verify the adequacy of actions undertaken in difficult situations [1,2].

In this context the correlation between variables responsible for coping with stress and various dimensions of emotional intelligence has become an interesting issue. It has been proved that emotional competences correspond with the effectiveness of functioning in difficult situations and, as a consequence, with good health and higher quality of life [3-5]. Emotional intelligence serves an adaptive role¹, i.e. makes it possible to adapt to coping with stress, and its level is connected with the aforementioned individual style of coping with stress [6,7]. In order to define emotional intelligence fully, it must be added that it is a range of abilities which regulate processing various types of emotional information. As a result, these abilities influence the creation of the complex of socio-emotional competences later developed during social training [6,8].

The two aforementioned psychological variables correspond with each other. Both separately and together they influence the effectiveness of functioning in sport and in other life activities, and are mainly connected with holistically-perceived good health². Therefore, the aim of the research presented in this work was the knowledge about the level of two variables (their dimensions and correlations between them), i.e. emotional intelligence and styles of coping with stress.

The obtained results may generate application forms at the stage of creating programmes of mental training of elite wrestlers.

MATERIAL AND METHODS

The research included 40 Greco-Roman-style elite wrestlers aged 19.42.8 with the training experience of 8.13.3 years. They were the finalists of the Polish Junior and Senior Championships in 2015. While selecting the participants the classification of the Polish Wrestling Federation was applied [10].

In the research the following two methods of psychological examination were used:

1. Coping Inventory for Stressful Situations (CISS), which examines the following styles of coping with stress (2):

- task-oriented style (SSZ scale) – in which the problem is dealt with by action-based approach or by cognitive appraisal,
- emotion-oriented style³ (SSE scale) – in which the focus is on negative emotional states and the tension connected with a difficult situation is dealt with through, inter alia, fantasising or wishful thinking,
- avoidant style (SSU scale) – which can be divided into distraction seeking (ACZ scale) and social diversion (PKT scale); such behaviours help to avoid experiencing or even thinking of a stressful situation.

2. Two-Dimensional Emotional Intelligence Inventory (DINEMO), which makes it possible to determine a general level of emotional intelligence (GEN scale) as well as two dimensions of this variable measured with the following scales [6]:

- OTHERS – the scale makes it possible to verify the accuracy of recognising emotions in others and judgements connected with it, and to assess the ability to influence emotional states of other people;
- ME – this scale helps to analyse the level of being aware of one's own emotions, their reasons and consequences as well as their influence on one's decisions or actions.

1 The possibility to adapt is connected with the realisation of basic regulative functions of emotions, i.e. "informative function (owing to emotions, people get to know the value or significance of stimuli and events), stimulating function (emotions stimulate thinking and acting) and communicative function (expressed emotions inform the surroundings about the state of the individual, owing to which they may activate adequate reactions, e.g. help)" [6: p. 9]

2 Health is perceived as a complete physical, social, mental and noetic wellbeing but also as a condition for optimal functioning as well as realising one's own needs and aspirations and satisfactory quality of life. Contemporary definitions of health assume its constant improvement, which corresponds with this work [9]

3 Task-oriented style is thought to be the most adaptive style of dealing with stress. However, there are opinions that emotion-oriented style may also be profitable, especially in situations when increased agitation motivates a person to make additional effort in a difficult/stressful situation [1,11].

The research was conducted and the results were analysed according to the suggestions of the authors of the applied methods. Raw data (obtained directly after the application of the answer key) and calculated data (referred to sten norms and categorised⁴) were analysed with the use of SPSS software taking into account the location measurements (means), significance of differences and correlations.

RESULTS

the analysis of the CISS questionnaire results made it possible to conclude that all the styles of coping with stress noted in wrestlers and included in the research were on an average level (table 1). Relatively lowest results were obtained in the scale measuring emotion-oriented style (the result lower than in the SSZ scale – $Z=-2.15$, $p=0.3$ and lower than in the SSU scale – $Z=-4.02$, $p=0.00$).

Table 1. The results of CISS questionnaire

CISS scales	RD	CD
SSZ	59.35 ± 6.72	6.02 ± 1.59
SSE	41.67 ± 7.33	5.17 ± 1.28
SSU	56.02 ± 9.13	6.80 ± 1.96
ACZ	21.45 ± 5.67	5.50 ± 1.96
PKT	18.42 ± 3.64	5.42 ± 1.81

Key: CISS – Coping Inventory for Stressful Situations; RD – raw data; CD – calculated data; SSZ – task-oriented style; SSE – emotion-oriented style; SSU – avoidant style; ACZ – distraction seeking; PKT – social diversion

Categorising the calculated results obtained by the participants helped to collect the following information⁵: in the group of participants one wrestler had a

low result in SSZ scale (a sten of 3), while nine participants had high results (including only one person at the highest level, i.e. sten of 10) (figure 1). In turn, in SSE scale, nine out of ten participants obtained average results. One wrestler obtained the result of a sten of 8 which qualifies him for the category of high results. Nearly half of the wrestlers obtained high results in the SSU scale. Three participants had low results. The distribution of the category of results referring to ACZ and PKT scales was the same, i.e. nearly ¼ of the participants obtained average results, while six participants had high results.

The results obtained during the test carried out with the use of DINEMO inventory and referred to appropriate norms revealed that a mean level of emotional intelligence in the participants (measured in each of the three scales) has average values. Comparing the calculated results provided additional data, i.e. the wrestlers obtained relatively highest result in the area of emotional intelligence referring to their own emotions (the result in ME scale is higher than in OTHERS scale – $Z=-3.57$, $p=0.00$).

Table 2. The results of DINEMO Inventory

DINEMO scales	RD	CD
OTHERS	10.75 ± 2.67	5.20 ± 1.49
ME	9.00 ± 2.14	6.42 ± 1.57
GEN	18.50 ± 3.70	6.00 ± 1.69

Key: DINEMO – Two-Dimensional Emotional Intelligence Inventory; OTHERS – emotional intelligence referring to the emotions of others; ME – emotional intelligence referring to one’s own emotions; GEN – general level of emotional intelligence

4 A sten of 1-3 – low results, 4-7 – average, 8-10 – high
 5 The results presented in figure 1 and 2 are expressed in percentage. The authors are aware of the fact that the groups of participants were relatively small, and therefore, they treat the aforementioned sets of results as data facilitating orientation in the proportions of the categories of low, average and high results.

Similarly to the analysis of the results of CISS questionnaire, the calculated results obtained from DINEMO inventory were categorised. Every fifth wrestler represented a high level of results in GEN

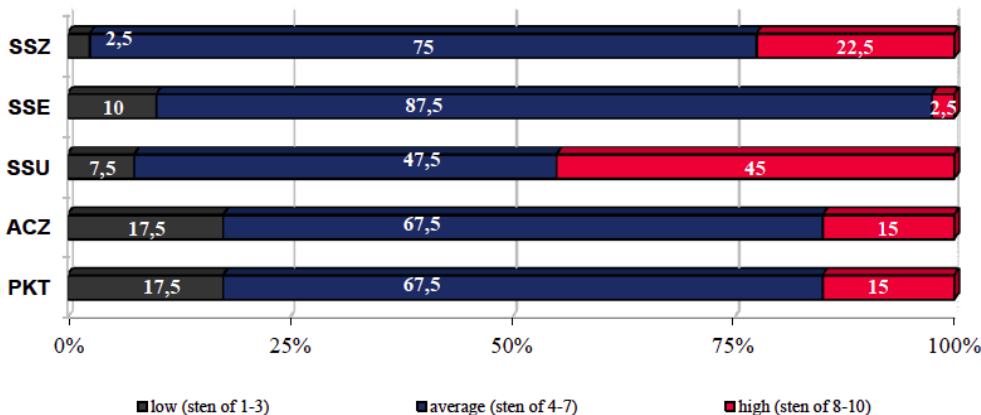


Figure 1. Styles of coping with stress – CISS calculated results (percent)

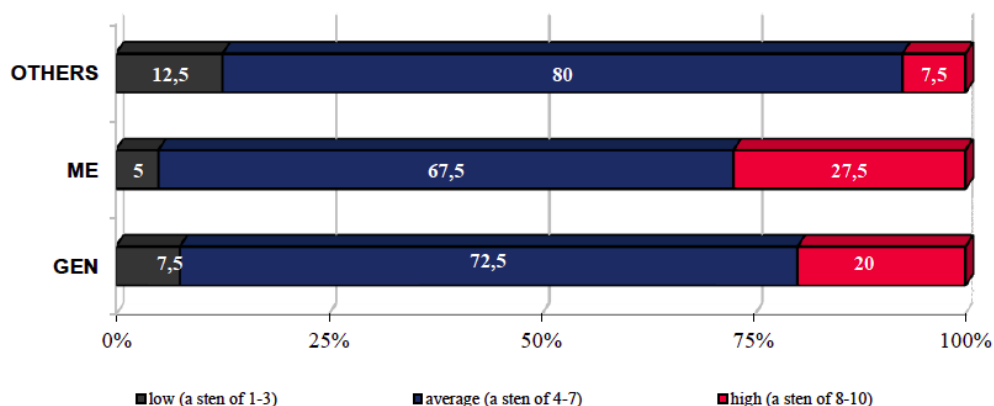


Figure 2. Emotional intelligence – percentage distribution of the calculated DINEMO results

scale, including one person who got the highest result of a sten of 10. In turn, ca. ¾ of the examined group obtained average results. Within OTHERS scale 3 participants obtained high results (at the level of a sten of 8), while the majority (i.e. 8 out of 10 participants) obtained average results. Two wrestlers obtained low results within ME scale, while nearly 30% of the participants had high results.

The analyses of Spearman’s correlation coefficients of the results of CISS questionnaire and DINEMO inventory (table 3) confirmed the existence of correlations between a task-oriented style and general emotional intelligence and emotional intelligence referring to “myself”.

Table 3. Correlations between results obtained in CISS and DINEMO scales

Scales	DINEMO			
	OTHERS	ME	GEN	
SSZ	0.27	0.33*	0.44**	
SSE	-0.11	-0.41**	-0.31	
CISS	SSU	-0.25	-0.12	-0.21
	ACZ	-0.34*	-0.13	-0.30
	PKT	-0.23	-0.02	-0.16

* p≤0.05 ** p≤0.01

DISCUSSION

Wrestling and other combat sports particularly highlight the necessity to understand the relation between body and mind not only with regard to oneself but also with regard to an opponent. They require specific starting readiness. Excellent knowledge and control of one’s own emotions is required from wrestlers both during the whole sports career and after it. The knowledge and ability to use emotional information concerning oneself and others and an ability to adapt to changing conditions (including difficult situations)

contribute to holistic mastership. It is expressed by the highest and repeated sports results, a natural tendency to care about the quality of life and development as well as satisfaction with the undertaken activity [12]. The literature of the subject includes interesting suggestions of reinforcing various psychological abilities of athletes. Formulas of psychological training are constantly improved and adapted to the requirements of particular sports, including wrestling [13-19]. The authors’ aim is to draw attention to the necessity to create and realise such procedures in Poland.

Despite the fact that all the measured styles of coping with stress were on an average level, two styles dominated in the examined group of wrestlers, i.e. a task-oriented and avoidant style. They significantly prevailed over an emotion-oriented style. Such a conclusion is indirectly confirmed by the analyses of the distribution of proportions of categorised results. Nearly half of the participants obtained high results referring to avoidant style, while nearly ¼ obtained results which prove a high tendency to focus on a task. In the group of athletes these strategies occurred relatively often. A task-oriented and/or avoidant style of coping with stress dominate especially among athletes doing combat sports⁶. A lower tendency to use emotion-oriented strategies of coping with stress can be noted in males doing sport. As it is suggested by the research [20-23], the problem of coping with stress must be analysed additionally with regard to other psychological dimensions.

The results of the tests carried out with the use of DINEMO inventory indicated an average level of

6 In the literature of the subject which the authors quoted, other opinions (apart from these cited while describing CISS questionnaire) may be found which suggest that avoidant style of dealing with stress perceived as non-adaptive may be profitable for athletes since it lowers the level of fear in certain situations.

general emotional intelligence of wrestlers but also an average level of emotional intelligence regarding an ability to deal with information concerning one's own emotions (ME scale) and emotions of others (OTHERS scale). However, it is worth highlighting that the wrestlers obtained the highest result (but still among average results) in the ME scale. It means that abilities influencing self-awareness of one's own emotional states (and understanding their causes and consequences) are best developed and they can be adequately expressed. This conclusion can be confirmed by the analysis of the distribution of categories of calculated results. Every third examined wrestler obtained high results in ME scale, while only two wrestlers obtained low results.

The obtained results referring both to the level of emotional intelligence and to the styles of coping with stress may be insufficient in order to function optimally in sport and in other areas. Being aware of one's own emotions is treated as one of key elements of mental preparation [24-26]. Moreover, it is mentioned as one of the most significant psychological variables whose level corresponds with the quality of the organisational climate. According to the results of research by Huseinagić et al. [27], the higher the level of emotional intelligence of coaches and sports managers, the higher the tendency to cooperate in good atmosphere. Although the research was carried out among coaches, it might be expected that high emotional intelligence of athletes will also contribute to a better way of functioning in the closest sports environment (relations with coaches or other wrestlers).

Currently engagement in a sports activity is connected with an absolute necessity to meet high requirements which are in many cases beyond the control of wrestlers themselves. Therefore, analyses of individual predispositions to cope with stress should be carried out with regard to the realities of wrestling, to the dynamic changes occurring in a broadly-understood sport management and to the subjective assessments of these changes made by wrestlers and their level of fear connected with it [28-33]. The authors of this work perceive it as an inspiration to continue the research in a broader range taking into account the specificity of wrestling in Poland. An analysis comparing the results of wrestlers with other untrained males could be the next step of analysis which would certainly provide interesting conclusions. The research by Mitić et al. [34] conducted among judo competitors revealed that they have higher emotional competences and they apply task-oriented style of coping with stress more often than their untrained counterparts. Generally, a higher level of emotional intelligence is diagnosed in athletes.

However, it should be specified especially with longitudinal research. Currently there is no certainty whether it is sport that develops psycho-social abilities and competences such as intelligence, or whether sport is chosen by individuals with specific psychological features [35]. The research by Rutkowska and Gierczuk [36] regarding the youth training wrestling and untrained youth may serve as pilot study.

Interesting conclusions were provided by the analyses of correlations between the results of CISS questionnaire and DINEMO inventory. A general level of emotional intelligence is connected with a task-oriented style of coping with stress. This style is also correlated with emotional intelligence concerning oneself (positive correlations). However, this dimension of emotional intelligence and emotion-oriented style correlate negatively. The third analysed dimension of emotional intelligence referring to the accuracy of recognising emotions in others is negatively correlated with avoidant style, i.e. with engaging in distracting activities. Such tendencies are also suggested by Strelau et al. [1]. Generally, research has shown that a high level of emotional intelligence corresponds with a more efficient way of coping with stress [37]. The correlation between emotional intelligence and psychological abilities (i.e. coping with stress, controlling/regulating emotions, perceiving successes and failures) was also noted in the research carried out among athletes doing other sports. Lane et al. [38,39] drew attention to the necessity to specify the direction of this correlation more precisely. It may be an interesting direction of further research.

Combat sports are sports with tradition and their system of training also takes into account the necessity to care about health, i.e. develop and improve specific mental competences. They are to assure a better cooperation between body and mind. This, in turn, makes it possible to properly understand the relation between emotions, thoughts and behaviour. As a consequence, it enables the control of thoughts, regulation of emotions and improvement in the quality of movement, i.e. speed and ease [15,17,19,40,41].

The presented research results may be a starting point in a discussion regarding the level of psycho-social competences or, more broadly, mental preparation of athletes. The conversations with wrestlers and coaches revealed that none of the examined athletes had any professional experiences of cooperation with a sport psychologist. However, the research revealed the need for developing and improving mental sphere. The results may be used for preparing initial guidelines useful in constructing mental training programmes dedicated to the group of elite wrestlers.

Athletes should develop the awareness of relations between emotions, thoughts and actions, and through this they should be able to manage themselves in a stressful situation. Depending on individual needs of a wrestler, on an accepted model of cooperation with a psychologist and a range of other factors (e.g. the moment in the training cycle when the cooperation with a psychologist starts, sports career or a wrestler's age), the formula of a mental training may differ. It should take into account improving emotional intelligence and the most adaptive styles of coping with stress, mainly task-oriented style, but also emotion-oriented style. The results of this research and conclusions drawn from it are confirmed in the literature of the subject [18,42].

The correlation between body and mind which is naturally realised in sport should be developed towards higher awareness of functioning in stressful situations. It results in a better quality of life and good health. The programmes of the postulated training of psychological abilities or mental trainings should be created in cooperation with coaches in order to increase their effectiveness and possibility to realise (within coaching). The engagement of coaches and

good climate for co-realised aims may bring additional profits, positively influence the course of the whole sports training and use the philosophy of wrestling more fully [42-44].

CONCLUSIONS

the research needs to be continued and the obtained results indicate the need for undertaking new directed studies in the future. However, at the present stage it is justified to formulate the following conclusions. Emotional intelligence and the ability to cope with stress of the participants need to be improved. They are, to a large extent, flexible abilities which can be changed during psychological training. Therefore, it is relevant to implement directed corrective, educational and prophylactic activities from the field of sports psychology into a training cycle. It is significant for wrestlers to be aware of the role of emotional intelligence and of the process of coping with stress. Equipping wrestlers with indispensable knowledge and mastering appropriate abilities will, in consequence, develop the desired competences. It will also improve the efficiency of functioning in sport as well as health and quality of life.

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