

# Selected psychological factors in elite male and female wrestlers

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*“Always follow the competition rules, respect your opponent. Only winning in fair competition will allow you to fully enjoy your success”*  
[Godlewski 1995, p. 16]

## Summary

**Introduction.** The study was designed to measure emotional intelligence of elite male and female wrestlers and to analyse their stress coping styles.

**Material and methods.** A group of elite male and female wrestlers aged 18-26 years was studied. The psychological factors were analysed using two research tools: the Two-Dimensional Inventory of Emotional Intelligence (DINEMO) and the Coping Inventory for Stressful Situations (CISS).

**Results.** The study participants achieved average scores for emotional intelligence and for particular stress-coping styles. Measurements of the selected psychological factors showed that male wrestlers and female wrestlers were significantly different from each other. The female wrestlers had a lower level of intrapersonal emotional intelligence. The male wrestlers had higher scores for the task-oriented style of coping with stress while the female athletes scored higher on the avoidance style.

**Conclusions.** Emotional intelligence and stress-coping styles are among psychological factors that influence the functioning of male and female wrestlers in sport and personal life. A need has been identified to shape and develop their emotional intelligence and adaptive stress coping styles.

## Introduction

The first Polish wrestlers participated in the Olympic Games almost 100 years ago and the first female wrestlers were admitted to competition in the 1990s [1]. This long history of competitive wrestling, the special training and competition demands in this sport, and the contemporary trends towards the professionalization of wrestling were the main factors that prompted the authors to study the key aspects of training for wrestling, including the psychological aspects of this process. All along the history of wrestling and other combat sports people have been aware that athletes' mental skills need to be strengthened and developed to improve their performance [2, 3]. In the authors' opinion, two psychological factors that need attention are emotional intelligence and the ability to cope with stress.

The literature review for this study was conducted on the assumption that emotional intelligence is a set of skills that

allow individuals to process emotional information about themselves and other people. This comment is crucial because of the research tools used in this study [4-6]. Stress-coping styles are understood as the mechanisms that people consciously trigger in the face of some situations, the preferred reaction to stress intended to defuse it or reduce its level. In a sense, they are also a regulator of the balance between subjectively perceived demands of a situation and the actual capabilities of an individual [7,8]. The choice of a stress coping style is influenced by the regulatory function of emotional intelligence. A skilful combination of both these factors determines adaptability to changing circumstances and so it may have major influence on how athletes perform in sport and personal lives „(...) the emotionally competent people use more effective ways of coping with stress” [8].

The detailed wrestling rules and the requirement to have the theoretical and practical knowledge of wrestling techniques and tactics cause that wrestlers are expected to have

special psychosocial skills. The authors' view is that two of the key psychological factors that can pave an athlete's way to championship are optimal coping with stress and efficient management of information about one's own and other people's feelings. The support for this view can also be found in other studies [9-13]. Let us note, however, that the term 'championship' should not be understood in the narrow sense of top performance in sport, but rather as high adaptability to varying circumstances (in both sport and life), good quality of life, satisfaction with different life activities, etc. [14].

This study was undertaken to measure emotional intelligence and stress-coping styles in a group of elite wrestlers. To account for the rising number of female wrestlers, the authors decided to enhance their research by drawing comparisons between male and female athletes.

The results of the study are a contribution to the discussion about the possibilities of improving training for male and female wrestlers and enhancing it with the elements of mental training and cooperation between athletes, coaches and sport psychologists.

## Material and methods

The study was carried out with 147 wrestlers, 42 women and 105 men, aged 18-26 years ( $M=20.86$ ,  $SD=2.47$ ), with training experience from 4 to 18 years ( $M=9.35$ ,  $SD=2.59$ ). All athletes were the members of the junior or senior Polish national freestyle and classic wrestling teams. Because of considerably different numbers of male and female athletes in the sample and the need to make calculations enabling within-sample comparisons of the selected variables, a purposive sampling technique using age as the control variable was employed to draw a group of 42 men (age:  $M=19.93$ ,  $SD=2.21$ ; training experience:  $M=8.43$ ,  $SD=2.73$ ), who were then compared with a 42-strong group of female athletes (age:  $M=20.45$ ,  $SD=2.48$ ; training experience:  $M=7.93$ ,  $SD=2.37$ ). Both groups were relatively similar in terms of age and training experience.

The psychological profiles of male and female wrestlers were surveyed at training camps in the preparatory period under standard conditions by the same research team. All athletes were informed about the course of the survey and were asked to complete two questionnaires in their off-training time before the noon, namely:

- the Two-Dimensional Inventory of Emotional Intelligence (DINEMO) consisting of the following scales: 1/ OTHERS – measuring the respondent's ability to recognise and

understand other people's emotions and to influence their feelings; 2/ I – measuring the respondent's ability to self-analyse their emotions, independence in decision making and acting, and the general level of emotional intelligence; 3/ the OG scale [5];

- the Coping Inventory for Stressful Situations (CISS) that measures the respondent's stress-coping styles, i.e.: 1/ a task-oriented style involving cognitive restructuring of the problem, as well as efforts aimed at solving the problem or altering the situation (the SSZ scale), 2/ an emotion-oriented style that deals with negative emotions and tension induced by a difficult situation by resorting to fantasizing or wishful thinking, etc. (SSE scale), 3/ an avoidance-oriented style (SSU scale) involving the engagement in substitute activities (the ACZ scale) and the search for social contacts (the PKT scale) not to experience, feel, and think about a stressor [8].

The crude results (WS) obtained from the surveys were converted into STen norms (WP). The percentage distributions of respondents' scores were analysed according to the following division: 1-4 STen – low score, 5-6 STen – average score, 7-10 STen – high score [15]. The strength of correlations between the selected variables was analysed using the Spearman's correlation coefficient.

## Results

Table 1 shows that the study participants had average levels of emotional intelligence (in each area) and average scores on stress-coping styles.

For each scale the mean scores of male wrestlers and female wrestlers were calculated (table 2) and compared. They proved to be significantly different. Women scored low for emotional intelligence on the „I” scale while men's scores were average. The difference was statistically significant. Both male and female athletes had average scores for a task-oriented style (men's scores were somewhat higher, though). However, women had higher scores (average) on an avoidance-oriented style than men (low). A similar distribution of scores was noted for the search for social contacts.

In the next stage of analysis, the percentage distributions of scores on particular scales were analysed. They are presented graphically in Figure 1.

Every third male athlete but only every tenth female athlete scored low on interpersonal emotional intelligence. In the case of intrapersonal emotional intelligence, low scores were

Table 1. Questionnaire scores – crude results (WS) and STen results (WP) for the whole sample (N=147)

Tool	DINEMO						CISS									
	OTHERS		I		OG		SSZ		SSE		SSU		ACZ		PKT	
Results	WS	WP	WS	WP	WS	WP	WS	WP	WS	WP	WS	WP	WS	WP	WS	WP
OG	11.18±3.31	5.55±1.92	7.79±2.23	5.22±1.82	17.60±4.11	5.43±1.94	57.53±7.78	5.68±1.73	43.05±8.84	5.41±1.44	48.84±9.52	5.37±1.93	21.73±5.72	5.54±1.94	18.05±4.02	5.33±1.96

obtained by almost 60% of female wrestlers and by more than 15% of male wrestlers. The distribution of scores for the overall level of emotional intelligence was similar. Low scores were more frequent among women than among men (38% versus 17%). A different distribution of scores was noted for high

scores that were achieved by every third men and only every fifth woman.

Male wrestlers who achieved low scores on a task-oriented style accounted for one-third of female wrestlers. At the same time, almost four times as many men as women had high

Table 2. Questionnaire scores – crude (WS) and STen results (WP) for female wrestlers (N=42) and male wrestlers (N=42), and the results of between-group comparisons

Research tool	DINEMO						CISS									
	OTHERS		I		OG		SSZ		SSE		SSU		ACZ		PKT	
Scale	WS	WP	WS	WP	WS	WP	WS	WP	WS	WP	WS	WP	WS	WP	WS	WP
F	13.45±2.72	6.05±1.62	7.26±2.44	4.45±2.17	19.12±4.04	5.36±1.87	56.52±7.13	5.52±1.64	43.69±8.86	5.52±1.52	50.38±8.68	5.69±1.79	22.09±5.86	5.62±1.91	18.90±3.83	5.83±2.14
M	10.57±3.27	5.52±2.11	8.62±2.09	6.00±1.59	17.90±3.87	5.90±1.83	60.12±6.29	6.19±1.50	40.95±7.26	5.09±1.30	44.88±10.27	4.52±1.97	19.71±6.07	4.83±2.06	17.05±4.14	4.81±1.86
Between-group comparisons (t-Student test)	-4.39**		2.73**	3.73**			2.45*				-2.65**	-2.85**			-2.12*	-2.34*

Significant at \* p≤0.05; \*\* p≤0.01

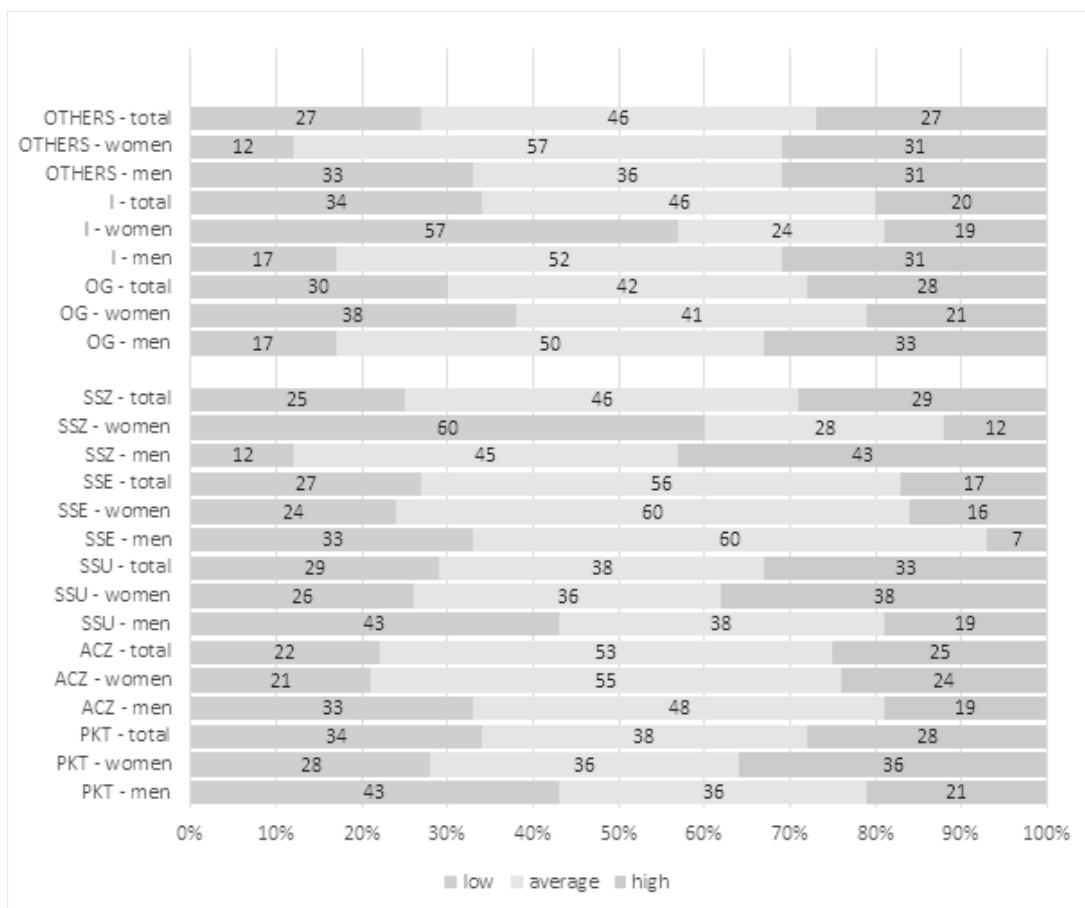


Figure 1. Distribution of STen results for the DINEMO and CISS scales for the whole sample (N=147), female wrestlers (N=42) and male wrestlers (N=42)

Table 3. Correlations between questionnaire scores – the whole sample (N=147)

		DINEMO			CISS				
		OTHERS	I	OG	SSZ	SSE	SSU	ACZ	PKT
DINEMO	OTHERS	X	0.23**	0.86**		-0.17*			
	I		X	0.67**		-0.30**			
	OG			X	0.17*	-0.29**			
CISS	SSZ				X				0.25**
	SSE					X	0.31**	0.32**	
	SSU						X	0.90**	0.73**
	ACZ							X	0.41**
	PKT								X

Correlation significant at: \*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$

Table 4. Correlations between questionnaire scores – female wrestlers (N=42)

		DINEMO			CISS				
		OTHERS	I	OG	SSZ	SSE	SSU	ACZ	PKT
DINEMO	OTHERS	X	0.37*	0.86**					0.34*
	I		X	0.78**					
	OG			X					
CISS	SSZ				X	-0.34*			
	SSE					X			
	SSU						X	0.87**	0.60**
	ACZ							X	
	PKT								X

Significant at: \*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$

Table 5. Correlations between questionnaire scores – male wrestlers (N=42)

		DINEMO			CISS				
		OTHERS	I	OG	SSZ	SSE	SSU	ACZ	PKT
DINEMO	OTHERS	X		0.87**		-0.39*			
	I		X	0.64**					
	OG			X		-0.48**			
CISS	SSZ				X				
	SSE					X			
	SSU						X	0.92**	0.74**
	ACZ							X	0.54**
	PKT								X

Significant at \*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$

scores. The ratio between men and women scoring high on an emotion-oriented style was 1 to 2, with high scores being achieved by only 7% and 16% of men and women, respectively. Scores on an avoidance-based style were high for almost 40% of women and approx. 20% of men. A similar disproportion was noted for high scores on the search for social contacts.

In the next step, correlations between the scores were tested. Tables 3-5 show that both correlations between the scores on the DINEMO and CISS scales and the intercorrelations between both scales were significant.

The analysis of participants' scores revealed that the emotion-oriented style was negatively correlated with each of the three dimensions of emotional intelligence.

In female wrestlers, the search for social contacts and the level of interpersonal emotional intelligence were significantly (and positively) correlated with each other. In male athletes, the overall level of emotional intelligence and the level of interpersonal emotional intelligence were negatively correlated with the emotion-oriented style.

Further, the analysis of results obtained for the entire sample showed correlation between athletes' age (and the length of training experience) and their scores on the "OTHERS" scale (age:  $r=0.33^{**}$ , the length of training experience:  $r=0.22^{**}$ ), the "I" scale (age  $r=0.19^*$ , the length of training experience  $r=0.24^*$ ), and the overall emotional intelligence scale (age:  $r=0.34^{**}$ , the length of training experience:  $r=0.28^{**}$ ), as well as between their age (and the length of training experience) and a task-oriented style ( $r=0.24^{**}$  and  $r=0.22^{**}$ , respectively). The age of female wrestlers correlated with an avoidance-oriented style ( $r=0.43^{**}$ ) and the use of substitute activities ( $r=0.39^{**}$ ). In the case of men, the length of training experience correlated with the overall level of emotional intelligence ( $r=0.31^*$ ) and intrapersonal emotional intelligence ( $r=0.31^*$ ). A correlation was also found between their age and a task-oriented style ( $r=0.36^*$ ).

## Discussion

This study was carried out within a larger research project analysing factors determining the performance of elite female and male wrestlers with a specific purpose of measuring their emotional intelligence and stress-coping styles that are crucial to becoming a sport champion [11;16]. Both these variables were analysed from the perspective of „holistic championship”, i.e. optimal functioning in sport and in private life. Accordingly, the subjects' sport achievements were not considered in the study.

The stereotypical perception of wrestling as a male sport was taken account of by selecting unequal numbers of male and female wrestlers for the sample (105 and 42, respectively). As the analysis of results obtained in this study and in another study by the same authors [13] suggests, wrestlers tend to have average scores on emotional intelligence and stress-coping styles.

A comparison of two equally numerous groups of male and female wrestlers performed in this study showed them to be significantly different from each other. Women achieved lower scores for intrapersonal emotional intelligence than men, but men had higher scores on the task-oriented style. This result is supported by findings reported by other authors [17]. Women showed a preference for an avoidance-oriented style (their scores for the search for social were particularly high) which involves tactics such as evading a difficult situation, thinking about other things or suppressing emotional reflection. These tactics allow circumventing a stressor, but they do not reduce the level of stress. Nevertheless, even though the focus of psychological training for athletes should be on the task-oriented and emotion-oriented styles, their awareness of the avoidance-oriented style and the negative impacts it may have on their performance in sport and private life should also be explained to them.

Unlike an avoidance-oriented style, a task-oriented style recognised as the most adaptive of stress coping strategies concentrates on solving the problem. The emotion-oriented style involves a confrontation with one's feelings. It may lead some people to wishful thinking the outcome of which is not certain – it may relax or increase the feeling of tension [8]. Training in the development of this stress-coping style requires therefore special effort to improve the athletes' intrapersonal intelligence.

The results of this study appear not to be satisfying. Athletes in wrestling – a psychologically demanding sport discipline – are expected to have high psychological resilience allowing them to optimally cope (also emotionally) with difficult situations. A prerequisite to this is intrapersonal and interpersonal emotional intelligence. The emotional competence training should strengthen competencies that athletes need in contacts with other people, but its main focus should be on competencies that will allow them to cope with themselves (in particular, the intrapersonal emotional competencies of female athletes require improvement). This would increase athletes' self-awareness and understanding of the interrelations between their emotions, behaviour and thinking, consequently improving their performance in sport and in private life [2,3,18].

The results of this study prove the advisability of regular cooperation with a sport psychologist. Both male and female athletes were found to be in need of psychological support and mental training focused on improving their adaptive stress-coping styles. Wrestlers should have ongoing assistance in learning and developing a task-oriented style, particularly female wrestlers whose scores on this style were lower than men's. The emotional competencies of the study participants also need to be enhanced. Because studies suggest that the adaptive styles of coping with stress and emotional intelligence are related to each other, it is advisable to support the development of both these competencies at the same time. The correlations obtained in this study lead to the same conclusion.

The correlations between variables and differences between male and female athletes in this study are interesting. For the whole sample (N=147), the correlation between the emotion-oriented style and each of the three dimensions of emotional intelligence was negative. This finding is consistent with the results reported by other authors [8]. In the group of male wrestlers, the emotion-oriented style negatively correlated with the levels of overall and interpersonal emotional intelligence. The female wrestlers' score on emotional interpersonal intelligence positively correlated with their score on the engagement in social activity. More than 70% of female wrestlers scored high or moderately for this stress-coping style.

Wrestling is stereotypically perceived as a male sport, but the growing number of female wrestlers provides a strong argument for studying the psychosocial aspects of their functioning in this sport. The results of such studies can be useful for specialists who develop and organise training for female athletes. This study is a contribution to the discussion about the need for sport training to address differences between male and female wrestlers.

Opinion polls on wrestling show that the sport is associated with entertainment. Respondents (especially women) also indicate that it has an element of aggression (violence) [19] that is stereotypically attributed to men rather than to women. This, too, stresses the masculine character of wrestling. Moreover, the training for wrestling noticeably changes the physical appearance of female wrestlers (their body posture and musculature increasingly resemble those of men). The masculine character of wrestling and physical changes may affect the female wrestlers' perception of themselves and the way they define the key aspects of their identity. This process is likely to involve various psychosocial costs that may be different from those incurred by men [20,21]. In this context, psychosocial research becomes particularly useful, as it can help institutions and coaches to professionalize the training for female wrestlers, as well as supporting female wrestlers themselves. The presentation of research results, analyses, and discussions on the possibilities of improving training and regular studies can also contribute to creating a positive image of wrestling.

The study showed that the participants needed training developing and enhancing their emotional intelligence, as well as „healthy” styles of coping with stress [2,13,18]. Moreover, its

results imply the advisability of adjusting the assistance of sport psychology to the needs of male and female wrestlers [22].

training. Special training needs were noted with respect to emotional intelligence and the adaptive styles of coping with stress.

## Conclusions

The authors designed their study to measure the male and female wrestlers' emotional intelligence and stress-coping styles as factors influencing their performance in sport and personal lives. It showed that subjects needed psychosocial

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