

PSYCHOLOGY

KATARZYNA RUTKOWSKA^{1(ACDEF)}, DARIUSZ GIERCZUK^{2(BDEG)}

¹ Maria Curie Skłodowska University in Lublin (Poland)

² University of Physical Education in Warsaw (Poland);

Faculty of Physical Education and Sport in Białą Podlaska (Poland)

Contact: Dr Dariusz Gierczuk, Dept. of Sports Theory, University of Physical Education, Warsaw, Faculty of Physical Education and Sport in Białą Podlaska, Akademicka 2, 21-500 Białą Podlaska, Poland, e-mail: darekgierczuk@op.pl

Achievement Motivation and Emotional Intelligence in Elite Female and Male Wrestlers

Submission: 5.03.2019; acceptance: 6.07.2019

Key words: women's and men's wrestling, psychological factors, mental training

Abstract:

Achievement motivation is the tendency to act towards a specific goal attainment that makes it possible to gain personal fulfilment even if it is necessary to surmount some obstacles. According to studies described in the literature of the subject, it is associated with emotional intelligence, which plays an adaptive role. Emotional competences help the individual to cope with different situations. The study sought to diagnose achievement motivation and emotional intelligence and to establish correlations between them in elite female and male wrestlers.

The study included 11 female and 64 male Greco-Roman wrestlers aged 16-26. Two comparative groups (11 females and 11 males) were formed for the needs of the comparative analysis.

The analysis of research results makes it possible to state that in the examined group of female and male wrestlers, the dimensions of both achievement motivation and of emotional intelligence fall within the range of average results.

The study revealed significant differences in the results concerning the levels of achievement motivation in women and men. The men demonstrated higher levels of eagerness to learn, pride in productivity, engagement, competitiveness and flow than the women. An overall result obtained with the use of LMI was also higher in male wrestlers. Furthermore, male competitors were found to exhibit significantly higher levels of ambition.

A number of correlations between particular dimensions of emotional intelligence and achievement motivation were noted; however, it also refers to factor results. Intrapersonal emotional intelligence was correlated with self-assurance and self-control, whereas general emotional intelligence was correlated with self-assurance and ambition.

It is recommended that psychological training and long-term cooperation with sports psychologists should be implemented in the wrestling training process. Achievement motivation and emotional intelligence are factors that help the individual to cope better with stress/difficult situations both within and outside the sport. The study is a contribution to the discussion on the issue of the professionalization of wrestling in Poland.

Introduction

Achievement motivation is a significant factor particularly in those spheres of human activity which require some kind of independence and freedom and where there is a chance it will be revealed. This issue has been defined and investigated in numerous studies. It is generally recognised as the tendency to act that stems from the need to meet specific needs (especially the ones linked to personal fulfilment) and a readiness to overcome possible obstacles. It is also a tendency to achieve

one's goals and the goals set by others and to compete with other people. It should not be treated as an independent concept; it should be considered with regard to other constructs. In this context, competences as well as attitudes to the future that are also closely related to achievement motivation are of particular importance. These elements are useful when it comes to coping with various situations and attaining goals [Klinkosz, Sekowski 2013; Teodorescu *et al.* 2017].

Motivation (including achievement motivation) is necessary to take up some activity (physical activity as

well) and to keep on doing it. Patterns of behaviour noted in this area result from various competences. However, emotional competences (including emotional intelligence) constitute variables which are conducive to better adaptation, coping and development [Laborde *et al.* 2016]. In other words, emotional intelligence is a set of abilities/skills which make it possible to process emotion-related information about oneself and others and to make use of knowledge regarding emotions in acting and thinking [Salovey, Mayer 1990; Matczak, Jaworowska 2006].

The assumption made in the study was that achievement motivation is a significant personal variable in sport (a factor) that can co-determine sports mastery. From among numerous competences/components of competences, the authors selected emotional intelligence as the one that plays an important adaptive role also in sport [Szabo, Urban 2014; Rutkowska, Bergier 2015; Laborde *et al.* 2016].

In the literature of the subject, there are studies which verified the correlation between achievement motivation and emotional intelligence [Kumar 2016; Naik, Kiran 2018]. However, there is a scarcity of such studies carried out on combat sports athletes. Therefore, this study sought to diagnose achievement motivation and emotional intelligence and to establish correlations between them in elite female and male wrestlers. The findings presented in this paper constitute a part of research on mental training in wrestling.

Materials/methods

The study included 11 female and 64 male Greco-Roman wrestlers (age: 16-26 years, $M=19.2$; $SD=2.29$; competitive experience: 2-18 years, $M=7.76$; $SD=2.71$). The wrestlers who won 1st-6th places at Polish Junior and Senior Championships or in two international tournaments in 2016 and 2017 took part in the study. The participants were selected based on the classification of the Polish Wrestling Federation [PZZ 2017]. They represented different weight classes (lightweight, middleweight, heavyweight). In addition to analyses regarding the whole sample group, comparative analyses were performed. The proportion of data gathered in the course of the research encouraged the authors to introduce modifications concerning the number of the subjects. Based on purposive sampling (pairs), two comparative groups (11 females and 11 males) were formed. The variables taken into account in the process of selection were the subjects' age and the length of their competitive experience. In this manner, two groups were selected. The first group included female wrestlers 16-23 years of age ($M=18.09$; $SD=2.62$) who had been practising wrestling for 2 to 10 years ($M=6.27$; $SD=3.07$). The other group consisted of male wrestlers aged 16-26 ($M=19.39$, $SD=2.19$) who had

been doing wrestling for 2-18 years ($M=8.01$; $SD=2.59$).

All the wrestlers gave their written informed consent to participate in the research. The study was approved by the Senate Ethics Committee for Scientific Research at the University of Physical Education in Warsaw (SKE 01-01/2016). All the participants were informed about the study aim and how the findings will be used and published. The data were collected during a training camp that took place in the pre-season period.

Three research tools were applied in the course of the research: Achievement Motivation Inventory (LMI), DINEMO Inventory and a survey questionnaire.

Achievement Motivation Inventory LMI (*Leistungsmotivationsinventar*) developed by Schuler *et al.* [2004] is a reliable and valid tool that makes it possible to collect detailed data regarding the issue of achievement motivation. The inventory includes 170 items within 17 dimensions (the names of the dimensions, i.e. their abbreviations, are also used in tables and figures):

- FL – flexibility understood as being ready to accept changes and to perform particular activities in new situations even if there is a risk of failure. New experiences provide satisfaction.
- FE – fearlessness perceived as being ready to be judged by others and to perform under time pressure without affecting performance effectiveness.
- PDT – preference for difficult/ambitious tasks understood as a tendency to select risks or demands at a certain level. When a difficult task has been completed, greater challenges are sought in order to raise expectations towards oneself.
- IN – independence seen as an ability to take responsibility for one's own actions rather than taking direction from others.
- CS – confidence in success understood as hope for success despite possible unfavourable circumstances. It is associated with self-confidence when facing new and challenging tasks.
- DO – dominance linked to a tendency to exercise power and take initiative or to take responsibility for others.
- EL – eagerness to learn that is significant in terms of learning motivation. It is associated with a tendency to learn new things on one's own and to extend one's knowledge for knowledge sake.
- GS – goal setting – a significant element of achievement motivation associated with high aspirations and awareness of the goal itself as well as the road to its achievement.
- CE – compensatory effort, i.e. considerable effort as a reaction to the possibility of failure.
- SO – status orientation understood as being oriented at attaining high status in a community and a social hierarchy. Achievements determine efficiency, and the need to achieve something is connected with the need to be recognised.

- PP – pride in productivity – a sense of accomplishment which results in high self-esteem. Self-esteem depends on achievement.
- E – engagement perceived as a readiness to perform long-term and/or high-level activity (even without rest) associated with positive emotions.
- C – competitiveness – orientation at competing and comparing with others understood as effort enhancement of those who are willing to win.
- F – flow – satisfactory engagement in work. It is a tendency that makes it possible to perform intensive task-oriented activity without being distracted. It can be observed in individuals who get motivation from expectations of success.
- IN – internality defined as a sense of internalised control that occurs when a person is convinced of their agency/responsibility/influence.
- P – persistence that corresponds with strength, energy, endurance and consequence (even when distracted) aimed at achieving particular goals.
- SC – self-control associated with intense concentration on a task and conscientiousness expressed through self-discipline and task-oriented organisation/realisation.

Moreover, an overall score (OS – treated as the final scale) obtained with the use of LMI is also diagnostic [Klinkosz, Sekowski 2013].

DINEMO (Two-dimensional Emotional Intelligence Inventory) was another tool applied in the course of the research. It was used to diagnose two basic dimensions of emotional intelligence. The inventory consists of three scales: OTHERS – which makes it possible to diagnose an ability to understand, recognise and respect others' emotions as well as knowledge/beliefs about it, and enables researchers to assess the skill of affecting other people's emotional states; ME – that makes it possible to assess the level of understanding one's own emotions, their causes and consequences and simultaneously respecting these emotions and this knowledge as well as their impact on actions/decisions. An overall score (OS) was presented as the third scale. It is a general level of emotional intelligence. DINEMO consists of 33 items containing descriptions of various situations that are sources of the subjects' reactions [Matczak, Jaworowska 2006].

The authors' own survey questionnaire constituted the third research tool. It was employed to collect data regarding gender, age or the length of competitive experience of the study participants.

Results

For statistical analyses, two types of data were used, i.e. raw data (table 1) as well as calculated data (raw

Table 1. Results obtained with LMI – raw data (RD) and converted results (CR) – (ten scores for LMI and sten scores for DINEMO)

Tool	Dimension	Total (n=75)		Female wrestlers (n=11)		Male wrestlers (n=11)	
		RD	CR	RD	CR	RD	CR
LMI	FL	45.43±6.40	50.89±8.51	43.45±4.82	49.45±6.73	42.82±5.21	48.00±7.54
	FE	39.37±8.96	52.84±10.01	41.54±5.22	59.36±5.06	33.09±8.84	46.63±9.07
	PDT	43.43±6.33	51.60±7.15	40.27±4.17	50.91±4.61	45.82±7.34	54.91±8.04
	IN	42.36±6.62	47.27±9.10	40.91±4.87	47.82±6.29	43.64±6.90	49.36±9.29
	CS	46.31±8.68	51.44±10.18	42.73±6.03	50.45±6.01	45.64±9.95	50.45±11.66
	DO	43.67±8.94	49.67±9.64	37.18±6.01	44.64±6.28	41.09±7.95	46.91±8.93
	EL	42.55±6.79	49.11±8.71	37.45±5.30	45.91±6.96	42.00±8.33	49.45±11.66
	GS	45.81±6.90	50.84±8.59	41.54±5.30	47.82±6.10	43.91±9.63	48.45±12.31
	CE	46.60±7.99	50.77±9.58	41.00±5.31	45.00±5.38	46.54±10.34	51.36±12.27
	SO	49.07±8.60	52.21±9.08	43.64±7.06	44.45±6.86	48.09±10.40	50.36±9.49
	PP	54.96±7.54	52.81±9.48	47.27±6.47	42.36±5.95	59.82±3.34	58.73±4.27
	E	42.55±7.61	54.55±7.80	35.45±5.30	48.45±6.33	43.91±8.29	56.18±8.26
	C	46.23±7.55	54.96±8.26	39.73±6.23	47.45±6.68	51.27±11.00	60.00±12.11
	F	47.27±6.83	49.73±7.74	42.18±6.78	44.36±6.65	51.73±5.46	55.09±6.14
	DINEMO	IN	46.69±6.44	53.57±7.84	47.82±6.69	56.27±7.98	45.18±4.09
P		46.17±7.45	54.92±8.21	42.73±4.20	53.09±4.78	46.09±9.69	54.64±10.67
SC		42.08±6.11	51.47±7.30	39.18±4.83	49.00±6.36	41.54±7.41	51.54±9.35
OS		770.5±78.2	53.12±8.32	704.1±41.48	47.64±4.74	772.18±74.9	53.81±8.16
OTHERS		11.29±3.02	5.55±1.95	11.00±3.25	4.45±2.16	12.18±2.75	6.36±1.80
DINEMO	ME	8.12±2.24	5.71±1.67	8.09±1.45	5.27±1.19	7.09±2.62	4.82±2.04
	OS	18.03±3.60	5.71±1.79	17.64±2.87	4.64±1.36	17.64±4.18	5.64±1.91

Note: U Mann-Whitney test was used to verify significance of differences between female and male wrestlers

* – significant correlation at the level of $p < 0.05$

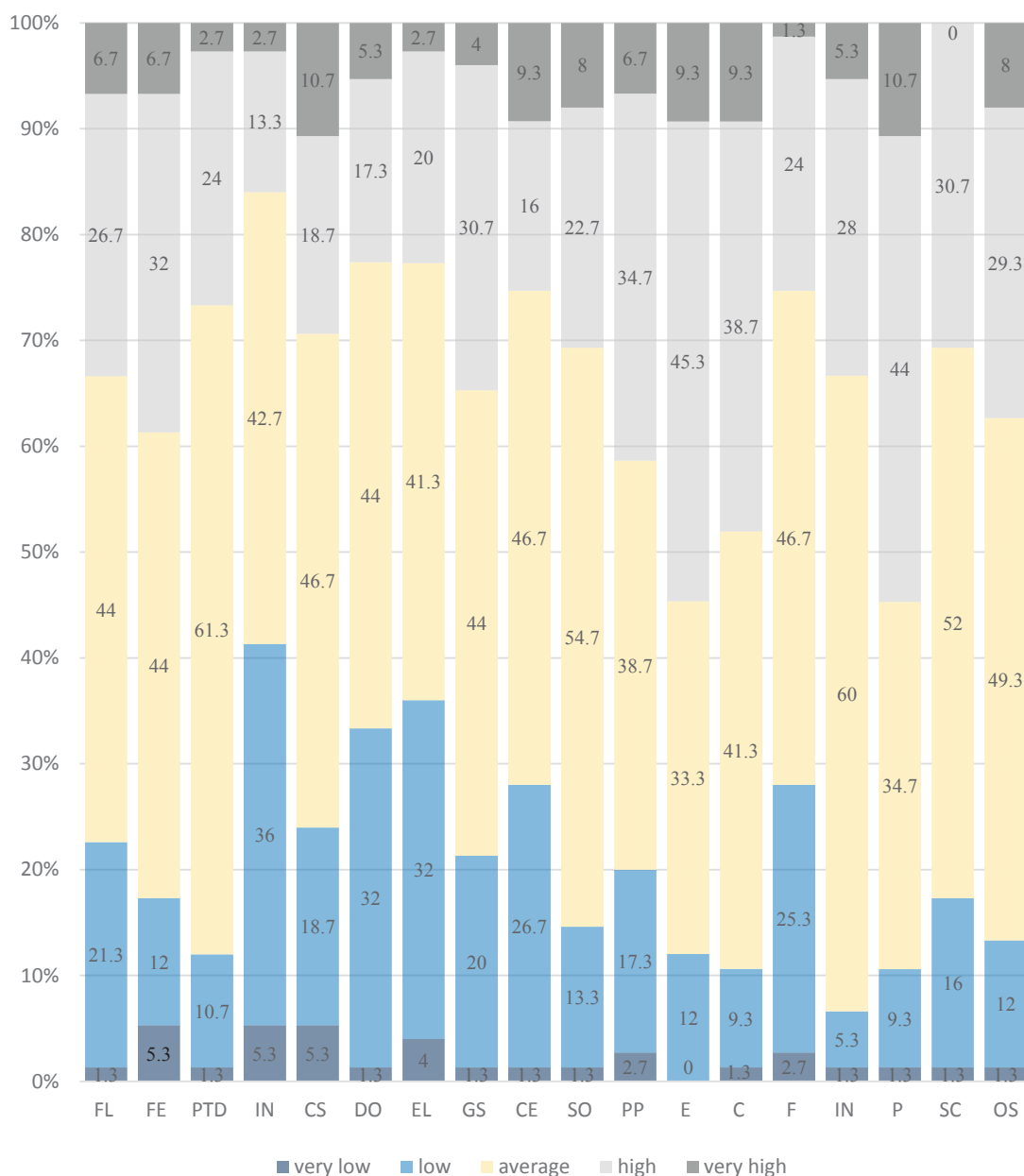


Fig. 1. Categories of converted ten scores obtained by the study participants in the course of LMI examination (n=75)

data compared to adequate norms). It concerns results gathered with the use of LMI and DINEMO. Results obtained within each dimension (achievement motivation and emotional intelligence) fall within the range of average results.

An intergroup analysis revealed significant differences in the levels of selected components of achievement motivation. Male wrestlers demonstrated higher levels of eagerness to learn (EL), pride in productivity (PP), engagement (E), competitiveness (C) and flow (F) than their female counterparts. Also, the overall score (OS) obtained with the use of LMI turned out to be higher in male wrestlers. However, no differences were noted in terms of gender.

Converted ten results of LMI were grouped into five categories (figure 1). The following categories were

applied: very low scores – 34 tens and less, low scores – 35 – 44, average scores – 45 – 55, high scores – 56 – 65, very high scores – 66 and more [Schuler *et al.* 2004; Klinkosz, Sekowski 2013].

Nearly 1/3 of the subjects displayed high or very high levels of achievement motivation. In turn, every tenth person had low levels of this variable. Relatively the largest group of the participants (almost 40%) manifested low or very low levels of independence, whereas the biggest number of high scores was found in the case of engagement (over 45%) and persistence (44%).

Similar to LMI ten scores, sten scores obtained in the course of DINEMO examination were also categorised (figure 2). Sten scores were grouped according to recommendations found in the literature of the subject [Brzezinski 1996]. The following categories were applied:

Table 2. Comparison of values of Spearman’s rank correlation coefficients (n=75)

Tool	DINEMO								LMI												
	Others	ME	OS	FL	FE	PDT	IN	CS	DO	EL	GS	CE	SO	PP	E	C	F	IN	P		
DINEMO	Others	X	.05	.80**	.01	-.01	.09	.21	-.08	-.004	.29*	.04	.15	-.02	.17	.10	-.15	.13	.02	.03	.11
	ME	.05	X	.61**	.31**	.35**	-.04	.00	.18	.27*	.11	.16	.05	.24*	.10	.15	.06	-.003	.24*	.23	.19
	OS	.80**	.61**	X	.24*	.20	.08	.20	.08	.20	.30**	.17	.17	.19	.22	.18	-.04	.11	.16	.16	.21
	FL	.01	.31**	.24*	X	.43**	.44**	.50**	.64**	.50**	.37**	.56**	.39**	.56**	.38**	.35**	.18	.39*	.36**	.56**	.33**
	FE	-.01	.35**	.20	.43**	X	.28*	.37**	.46**	.23*	.13	.22	.05	.15	-.08	.25*	-.18	-.11	.32**	.60**	.49**
	PDT	.09	-.04	.08	.44**	.28*	X	.39*	.54**	.18	.32**	.50**	.52**	.36**	.38**	.42**	.14	.53**	.17	.55**	.46**
	IN	.21	.00	.20	.50**	.38**	.39**	X	.44**	.34**	.07	.38**	.05	.30**	.27*	-.02	-.05	.22	.21	.40**	.16
	CS	-.08	.18	.08	.64**	.46**	.54**	.44**	X	.62**	.43**	.64**	.59**	.68**	.48**	.51**	.32**	.49**	.23*	.49**	.32**
	DO	-.00	.27*	.20	.50**	.23**	.18	.34*	.62**	X	.38**	.51**	.38**	.64**	.38**	.38**	.35**	.29**	.10	.17	.05
LMI	EL	.29*	.11	.30**	.37**	.13	.32**	.07	.43**	.38**	X	.44**	.53**	.42**	.29*	.49**	.18	.39**	-.05	.21	.32**
	GS	.04	.16	.17	.56**	.22	.50**	.38**	.64**	.51**	.44**	X	.62**	.73**	.48**	.56**	.19	.51**	.20	.31**	.35**
	CE	.15	.05	.17	.39**	.05	.52**	.05	.59**	.38**	.53**	.62**	X	.60**	.48**	.65**	.24*	.62**	.08	.27*	.32**
	SO	-.02	.24*	.19	.56**	.15	.36**	.30**	.68**	.64**	.42**	.73**	.60**	X	.53**	.46**	.28*	.50**	.17	.19	.23*
	PP	.17	.10	.22	.38**	-.08	.37**	.27*	.48**	.38**	.29*	.48**	.48**	.53**	X	.38**	.54**	.71**	.33**	.26*	.17
	E	.10	.15	.18	.35*	.25*	.42**	-.02	.51**	.38**	.49**	.56**	.65**	.46**	.38**	X	.42**	.41**	-.04	.39**	.42**
	C	-.15	.06	-.04	.18	-.19	.14	-.05	.32**	.35**	.18	.19	.24*	.28*	.54**	.42**	X	.35**	-.03	.11	.02
	F	.13	-.00	.11	.39**	-.11	.53**	.22	.49**	.29*	.39**	.51**	.62**	.50**	.71**	.41**	.35**	X	.16	.25*	.08
	IN	.02	.24*	.16	.36**	.32**	.17	.21	.23*	.10	-.05	.20	.08	.17	.33**	-.04	-.03	.16	X	.43**	.23*
	P	.03	.23	.16	.56**	.60**	.55**	.40**	.49**	.17	.21	.31**	.27*	.19	.26*	.39**	.11	.25*	.43**	X	.55**
	SC	.11	.19	.21	.33**	.49**	.46**	.16	.32**	.05	.32**	.35**	.32**	.23**	.17	.42**	.02	.08	.23*	.55**	X
OS	.09	.66**	.67**	.75**	.44**	.67**	.47**	.86**	.64**	.56**	.78**	.71**	.75**	.66**	.67**	.39**	.64**	.35**	.63**	.51**	

* - significant correlation at the level of p<0.05; ** - significant correlation at the level of p<0.01

Table 3. Factor results obtained by the study participants in the course of LMI examination (n=75)

LMI factor	Total (n=75)	Female wrestlers (n=11)	Male wrestlers (n=11)	Significance of differences
SA	50.62±6.48	50.44±3.30	49.38±6.58	55.50
A	51.87±6.19	45.73±3.88	53.70±6.29	16.00**
SC	53.32±5.98	52.29±1.29	52.94±6.85	56.50

** - significant difference at the level of p<0.01

Table 4. Comparison of values of Spearman’s rank correlation coefficients (n=75)

Tool	LMI factor			
	SA	A	SC	
DINEMO	OTHERS	.06	.14	.08
	ME	.24*	.15	.27*
	OS	.23*	.24*	.22

* - significant correlation at the level of p<0.05

low scores (within 1-4 sten), average scores (5-6 sten) and high scores (7-10 sten). The data presented in the figure below indicate that nearly 1/3 of the study participants had high levels of emotional intelligence. Every fifth person exhibited high levels of this variable in OTHERS scale and ME scale. The distribution of these proportions is similar in the case of scores related to general levels of emotional intelligence as well as interpersonal and intrapersonal emotional intelligence.

The next stage involved the analysis of correlation coefficients. It was revealed that there existed a number of positive correlations as well as intercorrelations between LMI and DINEMO scores (table 2).

A general level of achievement motivation (overall score) was correlated with emotional intelligence (general

and intrapersonal). Furthermore, intrapersonal emotional intelligence was also correlated with flexibility, fearlessness, dominance, status orientation and eagerness to learn. In turn, the scores related to interpersonal emotional intelligence were correlated with eagerness to learn only. DINEMO overall score was also correlated with flexibility and eagerness to learn.

As suggested by the authors of LMI, factor values were calculated. Factor results are the sums of selected ten scores divided by the number of dimensions. Three factors were distinguished: self-assurance – SA (dimensions: flexibility, fearlessness, preference for difficult tasks, independence, confidence in success, dominance), ambition – A (eagerness to learn, goal setting, compensatory effort, status orientation, pride in productivity,

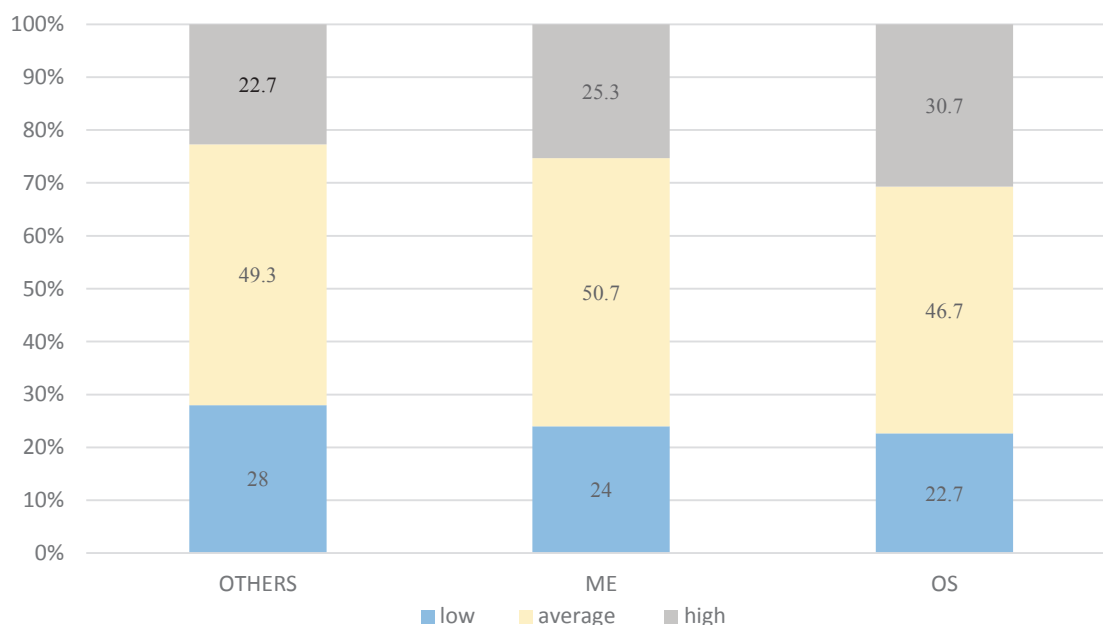


Fig. 2. Categories of converted sten scores obtained by the study participants in the course of DINEMO examination (n=75)

engagement, competitiveness, flow) and self-control – SC (internality, persistence, self-control). Analyses involved the whole sample group as well as comparisons between female and male wrestlers (table 3).

Mean values of three factors fell within the range of average results. Gender significantly differentiates the value of ambition. Male wrestlers demonstrated higher values of this factor than their female counterparts.

In addition, correlations between factor values and DINEMO scales were verified (table 4). Intrapersonal emotional intelligence was correlated with self-assurance and self-control, whereas general emotional intelligence was correlated with self-assurance and ambition. No correlations were revealed between LMI factors and interpersonal emotional intelligence.

Moreover, the values of correlations of LMI and DINEMO results with age and the length of competitive experience were calculated. Age was positively correlated with self-assurance as well as fearlessness (.33**), independence (.28*), confidence in success (.38**), eagerness to learn (.25*), flow (.23*), persistence (.31**) and a general level of achievement motivation. The length of competitive experience was correlated with two factors, i.e. self-assurance and ambition, as well as flexibility (.23*), fearlessness (.29*), preference for difficult tasks (.23*), confidence in success (.41**), dominance (.32**), eagerness to learn (.40**), goal setting (.29*), compensatory effort (.42**), status orientation (.25**), pride in productivity (.32**), engagement (.31**), flow (.28**), persistence (.36**) and an overall score of achievement motivation (.45**). Age and the length of competitive experience were not correlated with results obtained in the course of DINEMO examination.

Discussion

The aim of the study was to diagnose selected psychological factors including achievement motivation and emotional intelligence in elite female and male wrestlers.

Seventy-five wrestlers (including 11 females) participated in the study. Knowing the character of wrestling as well as stereotypical perceptions of this sport as typically male, the authors decided to present the whole research material. In this context, the proportion of results (11:64) is, in a sense, of a symbolic character. Despite an increase in the popularity of combat sports among women, it is still men who mainly practise wrestling in Poland. The fact that a relatively small group of women was included in the study resulted in the necessity of implementing extra procedures in order to make it possible to perform comparative analyses, i.e. men vs. women. Therefore, purposive sampling (pairs) was used.

The findings of the study revealed an average level of the examined variables – it refers to both achievement motivation and emotional intelligence. It seems that in terms of demands that contemporary sportspeople and wrestlers themselves have to face, these results are not satisfactory even though the study included members of the Polish National Wrestling Team, i.e. relatively the best wrestlers in their age categories.

The analysis of the results showed that gender did not differentiate emotional intelligence levels. Yet such differences are commonly noted [Matczak, Jaworowska 2006]. The authors of the present work observed that studies on emotional intelligence of female and male wrestlers provided different conclusions. In one study, emotional intelligence prevailed in women [Rutkowska *et al.* 2015], whereas another investigation revealed it

was more prevalent in men [Rutkowska, Gierczuk 2017]. Therefore, the findings of the current study are even more puzzling. Perhaps the fact that the sample groups were small (11 individuals each) affected the results. Despite purposive sampling (pairs), the groups differed in terms of variables under examination. Furthermore, intragroup age differences may have affected the results of intergroup comparisons. Although DINEMO can be used for diagnosing intelligence levels in adolescents (norms for lower-secondary school students were developed), researchers recommend it should be employed for assessing adults [Matczak, Jaworowska 2006]. What is also interesting is that correlations between age (and the length of competitive experience) and emotional intelligence were not found in any of the study participants. However, DINEMO authors imply that such correlations exist and emotional intelligence levels increase with age [Matczak, Jaworowska 2006]. It appears that observations regarding the analysis of results related to emotional intelligence may form the basis for further research in this field since it is significant to develop this type of intelligence in athletes.

What is puzzling is not only the lack of differences in the levels of emotional intelligence in female and male wrestlers but also the correlation between gender and achievement motivation that was different from what had been expected (based on the results of research carried out when developing LMI). While the authors of LMI manual [Klinkosz, Sekowski 2013] claim that women demonstrate higher levels of achievement motivation (it refers to an overall score and several scales), the authors of the present study revealed that the opposite is the case, as it is men who manifest higher levels of this variable. It is particularly interesting from the research perspective. Therefore, further investigations on psychological factors in wrestling (especially in women's wrestling) are needed.

Sport is still considered as a typical male activity. However, women achieve lot of success also in sports that are perceived as male, e.g. wrestling [Pfister 2010; Leng *et al.* 2012; Rutkowska, Bergier 2015]. Still, there are studies which show that female athletes who do sports seen as male are more susceptible to psychological consequences. For instance, such women abandon their sports careers relatively more often [Guillet *et al.* 2000; Sisjord, Kristiansen 2009; Marco *et al.* 2009]. It seems that in view of these considerations and observations, there is more to the findings of the study. Average levels of emotional competences (20-30% of the examined women had low levels of emotional intelligence) and achievement motivation as well as both variables at a similar or lower level compared to men (different from expected – in line with theoreticians' predictions) may contribute to lower satisfaction derived from sport, reduced sport-related effectiveness as well as difficulties in coping with various situations both within and outside sport. It may also affect their decision regarding the continuation of their sports careers.

High levels of emotional intelligence may be useful in monitoring and recognising one's own emotions and, on this basis, taking decisions significant in terms of further sports training. The authors of the present study assume that emotional intelligence may serve as an important buffer against various sport-related psychosocial phenomena. In the literature of the subject we can come across a statement that emotional intelligence is strongly correlated with mental resilience and achievement motivation [Magnano *et al.* 2016; Kumar 2016; Naik, Kiran 2018]. This observation is in line with the findings of the present study and it is confirmed by numerous correlations between results of particular scales of LMI and DINEMO. Various studies indicate that individuals who carry on with their sports careers display higher levels of achievement motivation [Bukowska, Marks 2005]. Achievement motivation is connected with self-efficacy and self-control [Domuschieva-Rogleva 2015] but it is also associated with sports effectiveness [Teodorescu *et al.* 2017]. Thus, two variables under investigation (achievement motivation and emotional intelligence) may play a significant role when it comes to the continuation of sports training/sports careers.

In Poland, there is an ongoing discussion on the professionalization of training in wrestling. The research conducted by the authors of the current study revealed that the process of training should include psychological sessions that would enhance sport-specific psychological resources both in athletes [Rutkowska, Gierczuk 2012a, 2014, 2017; Rutkowska *et al.* 2015] and in coaches [Rutkowska, Gierczuk 2012b]. Similar recommendations can be found in the literature of the subject [Hendrix 1991; Rushall 2006; Kristiansen *et al.* 2008; Daniel 2013]. According to the trends of contemporary psychology, psychological resources help in dealing with difficult situations, i.e. coping with stress [Lazarus, Folkman 1984]. On the one hand, values associated with wrestling facilitate enhancing such resources. An interesting fact is that combat sports foster the development of emotional intelligence [Szabo, Urban 2014]. In one study, it is claimed that sport strengthens the position of women in the world [Kadyan, Malik 2017]. On the other hand, contemporary sport, with all its excessive demands and sometimes distorted perceptions of a traditional idea of “*citius altius fortius*”, may endanger these resources (or mainly individuals without sufficient resources). The main dangers include too early specialisation, doping, commercialisation, injuries and psychological trauma (concerning this person and their relations with others). It requires not only legal interventions [Shevchenko 2014] but also preventive psychosocial reactions. While the development of emotional intelligence may enhance involvement in sport, the development of emotional intelligence may help to better understand a social situation and adaptation to particular conditions as well as monitoring emotions and taking measures when it is necessary to set the limits.

The results of the present study constitute the part of a larger research project aimed at analysing psychosocial factors affecting performance in wrestling. Admittedly, this study did not include a literal reference to sports results obtained by the participants; however, both achievement motivation and emotional intelligence are variables that, according to theoretical knowledge, are helpful in increasing the effectiveness of functioning. Further research should focus on verifying an actual influence of these variables on sports results achieved in wrestling.

Conclusions

Based on the above-presented results, it can be stated that the study participants manifested average levels of the analysed variables, i.e. achievement motivation and emotional intelligence. Significant differences were noted in the levels of the variables between female and male wrestlers. In the group under investigation, there exist significant correlations between particular dimensions of achievement motivation and emotional intelligence.

According to the authors, wrestling training should include mental training oriented at enhancing psychological resources that would make it possible to better cope with difficult situations both within and outside sport. These resources include emotional intelligence and achievement motivation.

Acknowledgements

The research was financed from budgetary funds for science in the years 2016-2019 (N RSA4 03154).

References

- Brzezinski J. (1996), *Metodologia badan psychologicznych*, Wydawnictwo Naukowe PWN, Warszawa [in Polish].
- Bukowska K., Marks M. (2005), *Rezygnacja z uprawiania sportu wyczynowego a wlasnosci psychiczne na przykladzie mlodziwy wybierajacej studia w akademii wychowania fizycznego*, [in:] E. Wlazlo [ed.], *Sport mlodziwy w badaniach psychologicznych, Studia i Monografie*, AWF, Wroclaw, no. 80, pp. 65-82 [in Polish].
- Daniel D.W. (2013), *Developing Wrestling Champions. The Total Program Approach*, Author House.
- Domuschieva-Rogleva G. (2015), *Determinant of sport motivation with wrestling athletes*, "Research in Kinesiology", vol. 43, no. 1, pp. 94-98.
- Guillet E., Sarrazin P., Fontayne P. (2000), "If it contradicts my gender role, I'll stop": *Introducing survival analysis to study the effects of gender typing on the time of withdrawal from sport practice: A 3-year study*, "European Review of Applied Psychology", vol. 50, no. 4, pp. 417-421.
- Hendrix B. (1991), *A mental skills program for wrestling*, "Scholastic Coach", vol. 60, no. 7, pp. 60-63.
- Kadyan A., Malik S. (2017), *Hardiness and self-esteem among female wrestlers: a correlation study*, "Indian Journal of Health and Well-being", vol. 8, no. 11, pp. 1370-1373.
- Klinkosz W., Sekowski A.E. (2013), *Inwentarz Motywacji Osiagniec H. Schulera, G. C. Thorntona, A. Fintrupa i M. Prochaski - LMI*, Pracownia Testow Psychologicznych PTP, Warszawa [in Polish].
- Kristiansen E., Roberts G.C., Abrahamsen F.E. (2008), *Achievement involvement and stress coping in elite wrestling*, "Scandinavian Journal of Medicine and Science in Sports", vol. 18, pp. 526-538.
- Kumar K. (2016), *Emotional intelligence and achievement motivation: a correlation study*, "Indian Journal of Health and Wellbeing", vol. 7, no. 5, pp. 546-549.
- Laborde S., Dosseville F., Allen M.S. (2016), *Emotional intelligence in sport and exercise: a systematic review*, "Scandinavian Journal of Medicine and Sciences in Sport", vol. 26, pp. 862-874.
- Lazarus R.S., Folkman S. (1984), *Stress, appraisal and coping*, Springer, New York.
- Leng H.K., Kang S.Y., Lim C., Lit J.J., Suhaimi N.I., Umar Y. (2012), *Perception of wrestling*, "Choregia - Sport Management International Journal", vol. 8, no. 1, pp. 43-53.
- Magnano P., Craparo G., Paolillo A. (2016), *Resilience and emotional intelligence: which role in achievement motivation*, "International Journal of Psychological Research", 9 (1), pp. 9-20.
- Marco E., Viveiros J., Cipriano N. (2009), *Wrestling with identity: an exploration of female wrestlers' perceptions*, "Women in Sport and Physical Activity Journal", vol. 18, no. 1, pp. 42-53.
- Matczak A., Jaworowska A. (2006), *Dwuwymiarowy Inwentarz Inteligencji Emocjonalnej - DINEMO*, Pracownia Testow Psychologicznych PTP, Warszawa [in Polish].
- Naik D., Kiran D.A. (2018), *Emotional intelligence and achievement motivation among college students*, "Indian Journal of Health and Well-being", vol. 9, no. 1, pp. 86-88.
- Pfister G. (2010), *Women in sport-gender relations and future perspectives*, "Sport in Society", vol. 13, no. 2, pp. 234-248.
- PZZ (2017), *Polski Zwiazek Zapasniczy*. <https://www.zapasy.org.pl> (20.12.2017).
- Rushall B. (2006), *Psychological Factors and Mental Skills in Wrestling*, [in:] J. Dosil [ed.], *The Sport Psychologist's Handbook. A Guide for Sport-Specific Performance Enhancement*, John Wiley & Sons, Ltd.
- Rutkowska K., Gierczuk D. (2012a), *Selected cognitive and emotional resources of untrained youth and young wrestlers. Emotional intelligence and creativity*, "Polish Journal of Sport and Tourism", vol. 19, no. 3, pp. 190-210.
- Rutkowska K., Gierczuk D. (2012b), *Emotional intelligence and the sense of efficiency of coaching and instructing in wrestling*, "Polish Journal of Sport and Tourism", vol. 19, no. 1, pp. 46-57.
- Rutkowska K., Gierczuk D. (2014), *Locus of control in specific sports situations in beginner wrestlers*, "Ido Movement

- for Culture – Journal of Martial Arts Anthropology”, vol. 14, no. 3, pp. 33-41.
24. Rutkowska K., Gierczuk D., Bujak Z. (2015a), *Rationale for mental training of elite wrestlers*, “Archives of Budo Conference Proceedings”, no. 1, pp. 85-91.
 25. Rutkowska K., Bergier J. (2015b), *Psychological gender and emotional intelligence among young female football players*, “Journal of Human Kinetics”, vol. 47, pp. 285-291.
 26. Rutkowska K., Gierczuk D. (2017), *Selected psychological factors in elite male and female wrestlers*, “Journal of Combat Sports & Martial Arts”, vol. 8, no. 2, pp. 95-100.
 27. Salovey P., Mayer J.D. (1990), *Emotional intelligence*, “Imagination, Cognition, and Personality”, vol. 9, pp. 185-211.
 28. Schuler H., Thornton G.C., Fintrup A., Mueller-Hanson R. (2004), *Achievement Motivation Inventory. Manual*, Hogrefe & Huber Publisher, Oxford.
 29. Shevchenko O.A. (2014), *Role of human rights and decent work in sports*, “International Sport Law Review Pandektis”, vol. 10, no. 3-4, pp. 420-425.
 30. Sisjord M.K., Kristiansen E. (2009), *Elite women wrestlers’ muscles. Physical strength and a social burden*, “International Review for the Sociology of Sport”, 44(2-3), pp. 231-246.
 31. Szabo A., Urban F. (2012), *Do combat sports develop emotional intelligence?*, “Kinesiology”, vol. 46, no. 1, pp. 53-60.
 32. Teodorescu, S.A., Butu, I.M., Catuna, G.C. (2017), *Motivation of achievement – factor in obtaining of performance in individual sports*. “Ovidius University Annals, Series Physical Education & Sport/Science – Movement & Health”, vol. 17, no. 2, pp. 523-528.

Motywacja osiągnięć a inteligencja emocjonalna wysoko kwalifikowanych zapaśniczek i zapaśników

Słowa kluczowe: zapasy kobiet i mężczyzn, czynniki psychologiczne, trening mentalny

Streszczenie:

Motywacja osiągnięć to tendencja do ukierunkowanego działania, umożliwiającego samorealizację nawet przy ewentualnych trudnościach do pokonania. Zgodnie z doniesieniami pojawiającymi się w literaturze przedmiotu ma ona związek z inteligencją emocjonalną, która pełni rolę adaptacyjną. Kompetencje emocjonalne sprzyjają bowiem lepszemu radzeniu sobie w różnych sytuacjach. Celem badań była diagnoza motywacji osiągnięć i inteligencji emocjonalnej oraz ustalenie siły związku między tymi zmiennymi w grupie wysoko kwalifikowanych zapaśniczek i zapaśników. W badaniach zastosowano polską adaptację Inwentarza Motywacji Osiągnięć – LMI [Klinkosz, Sękowski 2013], Dwuwymiarowy Inwentarz Inteligencji Emocjonalnej – DINEMO [Mączak, Jaworowska 2006], a także dodatkowy kwestionariusz ankiety.

W badaniach wzięło udział 11 zapaśniczek i 64 zapaśników stylu klasycznego w wieku 16-26 lat. Na potrzeby analiz umożliwiających diagnostykę porównawczą z całej próby wyodrębniono dwie grupy porównawcze – 11 zawodniczek i 11 zawodników. Wymiary motywacji osiągnięć badanych, a także wymiary inteligencji emocjonalnej mieszczą się w przedziale wyników przeciętnych. Istnieją istotne różnice międzypłciowe w wynikach motywacji osiągnięć. Zawodnicy posiadają wyższy poziom zapału do nauki, satysfakcji z osiągnięć, zaangażowania, nastawienia na rywalizację, flow. Ogólny wynik badania inwentarzem LMI jest także wyższy u zapaśników. Ponadto u zawodników zdiagnozowano istotnie wyższy poziom „ambicji”. Autorzy rekomendują włączenie do procesu szkolenia w zapasach treningu psychologicznego, a przede wszystkim podjęcie stałej, regularnej współpracy (zawodniczek, zawodników, ale również trenerów) z psychologami sportu. Motywacja osiągnięć i inteligencja emocjonalna to czynniki, które determinują lepsze radzenie sobie ze stresem/w sytuacjach trudnych – tak na gruncie sportu, jak i poza nim.

Praca stanowi głos w dyskusji nad problematyką profesjonalizacji zapasów w Polsce.