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**SELECTED TEMPERAMENTAL PROPERTIES AND ACHIEVEMENT
MOTIVATION OF FENCERS**

Key words: fencing, temperamental properties, achievement motivation.

ABSTRACT

The goal of this study was to characterize the temperamental properties (i.e. reactivity, mobility of nervous processes, the strength of the braking process) and achievement motivation of competitive fencers, inclusive of defining interconnections between these variables. 116 competitive fencers aged 14 to 32 participated in the study (41 of whom have been members of a select national team in their age groups). It has been found that the subjects were marked by a relatively low level of reactivity, a high level of mobility of nervous processes, a comparatively high level of strength of the braking process and an average level of achievement motivation. The statistical analysis also revealed that a low reactivity and a high level of mobility of nervous processes of fencers favored a high achievement motivation. The conclusions drawn from this study allow us to formulate the practical recommendations related to the fencer's training process that were also presented in this survey.

INTRODUCTION

Study results indicate that in order to attain an outstanding sports result an appropriate level of many complex mental actions of the athlete is crucial [5]. One of the actions, of particular significance for an athlete's mental readiness of an athlete, is his/her achievement motivation [3, 5, 8, 6].

The development of an optimal motivation level, ensuring the highest effectiveness of athlete's action, is a complex process, depending on multi-plane intra-mental regulation. Therefore, the basic neuro-mental regulation mechanisms are worthy of recognition, as they might affect the course of the motivation processes. It seems that they predetermine the temperamental properties of an athlete.

The problem and the goals of the study

The main research problem focused on characteristics of temperamental properties (i.e. reactivity, mobility of nervous processes, strength of the braking process) and achievement motivation of competitive fencers, including the definition of interconnections between these variables.

The main theoretical goal of the work consisted in extending the knowledge on the temperamental properties and achievement motivation, and determination of the differentiation at the level of motivation of competitors, resulting from variability related to the types of their neural systems, i.e. their temperamental properties. On the other hand, the practical goal was related to formulation of guidelines that may be used for the purposes of psychological selection of fencers and during their athletic education.

The research questions

Definition of the problem and goals of the work enabled submitting the following research questions:

1. What is the level of particular temperamental properties in competitive fencers?
2. What is the level of motivation of achievements in competitive fencing?
3. Are there any relations between the fencer's temperamental properties, i.e. the power of the braking processes and achievement motivation?

The variables – the assumptions and characteristics

While operationalizing the variables formulated for the purposes of the present work we considered the independent variables represented by particular temperamental features, and the dependent variable, i.e. achievement motivation of the considered fencers. Such an approach is, first of all, a result of the assumption that the temperament related, according to many conceptions, to relatively constant personality traits determined by innate physiological mechanisms, predominates in time the more dynamic and environment-related needs and motivations, both in the phylo- and ontogenetic development [14]. Hence, we assume that development of a pre-determined set of needs and, furthermore, shaping of certain motivation patterns (the motivation contents) may be closely related to relatively constant reactions of a child in the early childhood, which is a result of individual differentiation in the sphere of the temperamental properties. Such an assumption seems to be well justified in the light of the arguments saying that the self-strengthening mechanisms, observed already during the first year of life, are supported by achievement motivation [9]. Self-strengthening, expressed by positive emotions at the moment of independent achievement of the intended goal may be of temperamental background, as in an early stage of life the rational-environmental mechanisms would be rather unexpected [9]. The force and mobility of the nervous system are important elements, on the grounds of which individuals seek stimulating situations, presenting various “mini-challenges”. Their realization ensures proper expression of behaviour. The continuation of this line enables us to assume that thanks to a definite “positive” or “negative” appraisal related to the task situation the individual feeling of one's own action affordance may undergo variations. A high level of

the last feature is connected with larger expectations with regard to future successes [4].

The search for relations between temperamental properties and achievement motivation may begin from characteristics of the image of the space of independent variables responsible for formulation of the temperamental properties. Among them the following can be mentioned:

1) Strength of the stimulation process, i.e. temperamental reactivity, manifested by the nerve cell ability to operate that reflects the capability of the nervous system to resist a long- or short-term stimulation of high intensity. The strength of the stimulation process is directly related to reactivity but the relationship is of inverse character, which means that for higher stimulation process strength the reactivity is reduced. The fencers of low reactivity (i.e. of high strength of stimulation process) distinguish themselves by the behaviours that enable them to undertake many actions which are efficiently performed in highly stimulating situations [11].

2) Mobility of nervous processes, manifested by an ability to react immediately and accurately in varying situations [11]. Since the situations in fencing change quickly, it can be presumed that in order to perform effective actions a proper level of mobility of nervous processes should be required.

3) Strength of the braking process – reflects the functional ability in the sphere of conditional braking, and is manifested by an ability to restrain from reacting, capability for delaying some definite actions, interrupting an already undertaken action (in the case of need) [11]. In fencing the ability to restrain from actions unwanted in a given situation seems to be highly advantageous.

The discussed temperamental properties interacting with the environmental conditions may affect the process of shaping motivation for definite actions characterized by aspiration for rivalry with perfect patterns, i.e. achievement motivation. The achievement motivation takes a special position in sports psychology, where it is considered an independent variable.

According to Atkinson, the strength of a motive for undertaking a definite task is a product function of the motive strength (M), forecasted subjective probability of success or failure (p) and subjective value of the result (w). Hence, the action of an athlete focused on success is a result of two opposite tendencies: one aimed at reaching success (T_s) and the other at avoiding defeat (T_n).

Therefore, it could be assumed that the result of achievement motivation equals the algebraic sum of the two tendencies ($Ts+Tn$) [4, 7].

The achievement motive in an athlete is connected with an action in which ever higher standards may be imposed, in spite of the lack of an external reward [16]. Therefore, it could be supposed that the fencers characterized by a high achievement motive are able to undertake risks in their actions and reach their goals by ingenious and new instrumental actions, bearing responsibility for their own tasks. Such competitors plan and manage their lives in accordance with important sports goals and are willing to demonstrate their personal affordance in realization of the tasks induced by the competitive sports situation [18, 3]. Hence, they may be reckoned as individuals characterized by low temperamental reactivity, high mobility, and a high level of the braking process.

Research hypotheses

The above definition of the problem and characteristics of the variables enable assuming the following research hypotheses:

1. Competitive fencers are characterized by low temperamental reactivity (i.e. high strength of the stimulation process).
2. Competitive fencers are characterized by a high level of the mobility of nervous processes.
3. Competitive fencers are characterized by a high level of the braking process strength.
4. Competitive fencers are characterized by high achievement motivation.
5. The relationship between the reactivity level of a fencer and his/her achievement motivation is inversely proportional.
6. There is a positive correlation between the mobility of nervous processes and achievement motivation of fencers.
7. There is a positive correlation between the strength of the braking process and achievement motivation of fencers.

METHODS

Subjects

The sample for the study consisted of 116 fencers (59 women and 57 men) aged from 14 to 32 years. The total number of 80 subjects (44 women and 36 men) was distinguished by their high

fencing efficiency (41 of them were of master's class – i.e. were the members of national teams in their age categories). Therefore, it was assumed that from the standpoint of sport effectiveness the subjects made up a relatively homogeneous group.

Research methods

The research method selected for the study was the PTS Inquiry Sheet developed by J. Strelau, B. Zawadzki, and A. Angleitner [14]. It allows measuring basic temperamental properties, according to Pavlov's approach. The FCZ-KT Inquiry Sheet, being an extension of the Regulative Theory of Temperament (RTT) [14, 19], can be also applied for this purpose. Nevertheless, the properties measured with the aid of both inquiries are closely interrelated. For measuring achievements a commonly used inquiry form was chosen, developed by M. Widerszal-Bazyl [17].

The PTS Temperament Inquiry by J. Strelau, B. Zawadzki, and A. Angleitner [12] is a PTS Inquiry designed for the purpose of general temperamental diagnosis, formerly called KTS-Z Inquiry Form [13]. It includes 57 questions divided into three groups corresponding to particular features of the nervous system, i.e. stimulation strength, braking power and mobility of nervous processes [12].

The Achievement Motivation Inquiry Form by M. Widerszal-Bazyl [17] includes 20 questions to be answered by selecting one of the possibilities provided. The questions are closed and include 10 factors of the patterns of behavior characteristic for the achievement motive. The following forms of behaviour were considered: definition of indirect aspiration level, perseverance in executing the tasks, the Zeigarnik effect (interrupted tasks are better remembered than completed ones), time perspective, ability to delay gratifications, dynamic perception of time, self-confidence – belief in success, concentration on the task, lack of conformist tendencies and aspiration for social approval [17].

RESULTS

First, the characteristics of temperamental properties, i.e. reactivity, mobility of nervous processes, and strength of the braking process will be presented. Next, the competitors' achievement motivation will be discussed as well as results of

research related to its relationship with particular temperamental properties. In order to define the relationships the subjects were divided according to their achievement motivation level (a dependent variable) into five groups comprising competitors with very high, high, medium, low, and very low achievement motivation, respectively. Each group was characterized according to particular temperamental features (independent variables).

Temperamental properties of fencers

Following the order adopted in the study the research results are presented with regard to temperamental reactivity, mobility of nervous processes and braking process strength.

A. Temperamental reactivity of fencers

Table 1 shows fencers with low temperamental reactivity, which is indicated by their high values of the strength of stimulation process, $\chi = 51.7$; $s = 8.3$; $M = 51.0$. The tested property shows no significant differentiation with regard to sex, $U = -1.64$. The distribution of the variable does not significantly deviate from the symmetrical distribution ($Sk = 0.11$).

Table 1. Temperamental reactivity of fencers

sex	n	χ	s	U M-F	M M+F	Sk M+F
M	57	50.5	8.3			
F	59	52.9	8.1	-1.64	51.0	0.11
M+F	116	51.7	8.3			

M – men; F – women; n – numerical force; χ – arithmetic average; s – standard deviation; U – Mann-Whitney U-Test; M – median; Sk – skewness

B. Mobility of nervous processes in fencers

The considered fencers are characterized by a high level of mobility of nervous processes, $\chi = 55.8$; $s = 7.7$; $M = 56.0$ (Table 2). It is particularly high in women, $\chi = 57.4$; $s = 7.3$. In the group of men its average value amounts to $\chi = 54.2$; $s = 7.8$. Hence, sex is a factor that significantly differentiates the subjects with respect to mobility of nervous processes, $U = -2.02$; $p < 0.05$. The distribution of the results does not significantly deviate from the symmetrical distribution ($Sk = 0.07$).

Table 2. Mobility of nervous processes in fencers

sex	n	χ	s	U M-F	M M+F	Sk M+F
M	57	54.2	7.8			
F	59	57.4	7.3	-2.02*	56.0	0.07
M+F	116	55.8	7.7			

M – men; F – women; n – numerical force; χ – arithmetic average; s – standard deviation; U – Mann-Whitney U-Test; M – median; Sk – skewness

C. Strength of braking process in fencers

The considered fencers are characterized by relatively high strength of the braking process, $\chi = 50.5$; $s = 6.8$; $M = 51.0$ (Table 3). No significant differences were shown between the groups of men and women, $U = -0.76$. The distribution of the variable is symmetrical ($Sk = 0.08$).

Table 3. Strength of braking process in fencers

sex	n	χ	s	U M-F	M M+F	Sk M+F
M	57	49.8	7.0			
F	59	51.1	6.5	-0.76	51.0	0.08
M+F	116	50.5	6.8			

M – men; F – women; n – numerical force; χ – arithmetic average; s – standard deviation; U – Mann-Whitney U-Test; M – median; Sk – skewness

Achievement motivation in fencers

The data in Table 4 indicate that the fencers are characterized by a medium level of achievement motivation. The arithmetic average amounts to $\chi = 64.1$ for $s = 7.9$; $M = 64.0$ (the values take the upper part of the range of average results, and the range of average achievement motivation for the general population amounts from 61 to 65 points). No statistically significant differences between men and women were found ($p = 0.05$; $U = -1.32$). The entire distribution of results does not significantly deviate from the symmetrical pattern ($Sk = -0.08$).

Table 4. Achievement motivation in fencers

sex	n	χ	s	U M-F	M M+F	Sk M+F
M	57	63.1	8.6			
F	59	65.1	7.1	-1.32	64.0	-0.08
M+F	116	64.1	7.9			

M – men; F – women; n – numerical force; χ – arithmetic average; s – standard deviation; U – Mann-Whitney U-Test; M – median; Sk – skewness

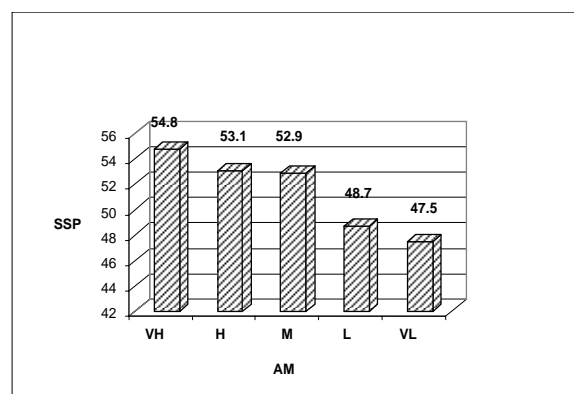
Temperamental reactivity and achievement motivation in fencers

Temperamental reactivity significantly differentiates the group of fencers with regard to achievement motivation of $H = 13.0$; $p < 0.05$ (Table 5 and 6). Most decidedly, the lowest reactivity (the highest strength of the stimulation process) occurs in competitors with very high achievement motivation, $\chi = 54.8$. On the other hand, maximal reactivity (lowest strength of the stimulation process) occurs in fencers with very low motivation $\chi = 47.5$ ($U = 2.59$; $p < 0.01$). A statistically significant differentiation with regard to reactivity was observed not only within the distribution range of achievement motivation but also in the segments located nearer to medium values, i.e. between the fencers of high and low motivation levels ($U = 2.08$; $p < 0.05$) or the competitors of very low and medium achievement motivation ($U = -2.00$; $p < 0.05$). Nevertheless, no difference was found with regard to reactivity in the range of medium achievement motivation results, e.g. between the fencers with high and medium achievement motivation, $U = 0.03$.

The correlation relationship between the strength of fencers' stimulation process and their achievement motivation amounts to $r = 0.33$

($p < 0.001$). A stronger correlation occurs in the group of male fencers, $r = 0.41$ ($p < 0.001$). 11% of variability of achievement motivation are due to their reactivity, $R^2 = 0.11$.

Figure 1 presents the results related to the fencers' achievement motivation.



SSP – strength of the stimulation process; AM – achievement motivation; VH – very high; H – high; M – medium; L – low; VL – very low

Figure 1. Achievement motivation level of fencers as a function of reactivity – strength of the stimulation process

Table 5. Temperamental reactivity and achievement motivation in fencers

sex	Achievement motivation														
	very high			high			medium			low			very low		
	n	χ	s	n	χ	s	n	χ	s	n	χ	s	n	χ	s
M	11	53.2	6.0	9	55.7	7.8	14	50.7	7.7	12	46.9	8.3	11	47.1	9.6
F	15	56.0	10.7	12	51.2	5.2	14	55.0	8.4	13	50.3	5.2	5	48.4	8.0
M+F	26	54.8	9.0	21	53.1	6.6	28	52.9	8.2	25	48.7	7.0	16	47.5	8.9

M – men; F – women; n – numerical force; χ – arithmetic average; s – standard deviation

Table 6. Comparative analysis of reactivity of fencers of various levels of achievement motivation

sex	H	U vh – vl	U h – l	U vh – l	U vl – h	U vh – m	U vl – m	U h – m	U l – m	r	R2
M	9.55*	1.88	2.17*	1.91	-2.28*	1.02	-1.25	1.59	-1.31	0.41**	0.15**
F	7.74	1.48	0.63	1.87	-0.63	0.33	-1.72	-1.60	-1.80	0.25	0.05
M+F	13.0*	2.59**	2.08*	2.63**	-2.29*	0.88	-2.00*	0.03	-1.87	0.33***	0.11***

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

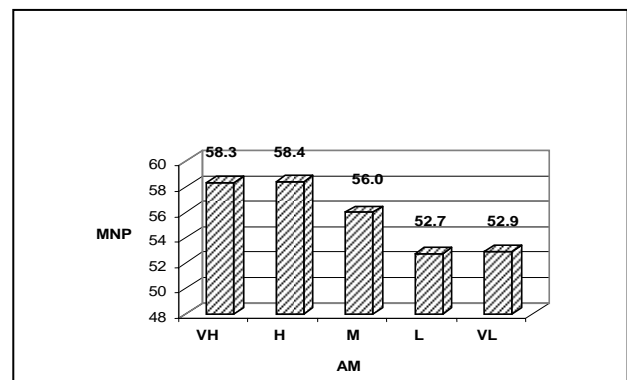
M – men; F – women; H – [H] Kruskal-Wallis test; U – Mann-Whitney U-Test; r – Spearman correlation coefficient; R2 – determination coefficient of achievement motivation: vh – very high, h – high, m – medium, l – low, vl – very low

Mobility of nervous processes vs. achievement motivation of fencers

In general, a tendency may be observed that men with high mobility of nervous processes feature higher achievement motivation as compared with men with lower mobility. Significant differences occur beyond the middle range of the motivation distribution (Table 7 and 8). For example, fencers with very high achievement motivation feature significantly different mobility levels as compared with the fencers with very high achievement motivation ($U = 1.99$; $p < 0.05$). Still bigger differences can be observed between the competitors with high and low achievement motivation ($U = 2.60$; $p < 0.01$). The correlation in the group of male fencers amounts to $r = 0.47$; $p < 0.001$, which confirms the moderately strong and positive relationship between the variables. 20% of variability of achievement motivation in the male group is due to the mobility of nervous processes.

In general, there is a moderate correlation between the mobility of nervous processes and achievement motivation in fencers ($r = 0.33$; $p < 0.01$). Nevertheless, it should be noticed that the strength

and direction of the relationship is mainly affected by the results of the male group, as the female fencers produced no results of sufficient strength and statistical significance. The results are presented in Figure 2.



MNP – mobility of nervous processes; AM – achievement motivation; VH – very high; H – high; M – medium; L – low; VL – very low

Figure 2. Achievement motivation level of fencers as a function of mobility of nervous processes

Table 7. Mobility of nervous processes vs. achievement motivation of fencers

sex	Achievement motivation														
	very high			high			medium			low			very low		
	n	χ	s	n	χ	s	n	χ	s	n	χ	s	n	χ	s
M	11	58.0	6.5	9	58.2	6.6	14	55.1	6.5	12	49.1	4.9	11	51.6	9.4
F	15	58.6	8.7	12	58.6	6.6	14	56.8	7.4	13	56.1	5.6	5	55.8	10.2
M+F	26	58.3	7.7	21	58.4	6.4	28	56.0	6.9	25	52.7	7.1	16	52.9	9.5

M – men; F – women; n – numerical force; χ – arithmetic average; s – standard deviation

Table 8. Comparative analysis of mobility of nervous processes of fencers of various achievement motivation levels

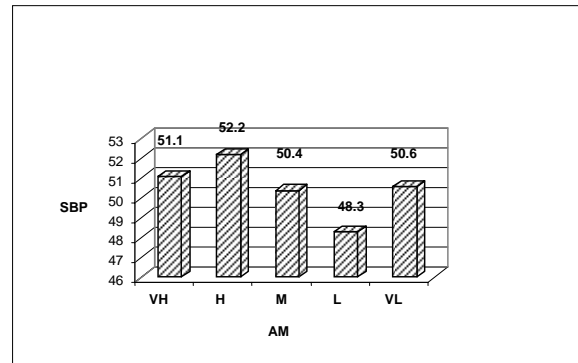
sex	H	U	U	U	U	U	U	U	U	U	r	R2
		vh – vl	h – l	vh – l	vl – h	vh – m	vl – m	h – m	l – m			
M	12.70*	1.99*	2.60**	2.83**	-2.13*	1.07	-1.04	1.19	-2.06*	0.47***	0.20***	
F	1.52	0.45	1.04	0.97	-0.32	0.48	-0.23	0.72	-0.31	0.16	0.02	
M+F	11.95*	2.13*	2.69**	2.64**	-2.12*	1.07	-1.22	1.42	-1.42	0.33***	0.11***	

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

M – men; F – women; H – [H] Kruskal-Wallis test; U – Mann-Whitney U-Test; r – Spearman correlation coefficient; R2 – determination coefficient of achievement motivation: vh – very high, h – high, m – medium, l – low, vl – very low

Braking processes and achievement motivation of fencers

The strength of the braking process yields no differences with regard to achievement motivation; $H = 6.22$ (Table 9 and 10). Nevertheless, the competitors with high motivation displayed a higher level of this parameter as compared to the ones of low motivation ($U = 2.12$; $p < 0.05$). A significant difference was noted between fencers of very high and low motivation ($U = 2.01$; $p < 0.05$). In spite of statistical significance at $p = 0.05$ the correlation between the variables was rather poor; $r = 0.20$. The results are presented in Figure 3.



SBP – the strength of braking process; AM – achievement motivation; VH – very high; H – high; M – medium; L – low; VL – very low

Figure 3. The level of achievement motivation of fencers as a function of the strength of braking process

Table 9. Strength of braking process and achievement motivation of fencers

sex	Achievement motivation														
	very high			high			medium			low			very low		
	n	χ	s	n	χ	s	n	χ	s	n	χ	s	n	χ	s
M	11	48.9	9.4	9	53.2	5.0	14	49.5	4.5	12	47.9	5.9	11	50.4	9.3
F	15	52.7	5.3	12	51.5	9.0	14	51.2	6.8	13	48.7	4.1	5	51.2	8.3
M+F	26	51.1	7.4	21	52.2	7.5	28	50.4	5.7	25	48.3	4.9	16	50.6	8.8

M – men; F – women; n – numerical force; χ – arithmetic average; s – standard deviation

Table 10. Comparative analysis of the strength of braking process of fencers of various achievement motivation levels

sex	H	U	U	U	U	U	U	U	U	U	r	R2
M	3.73	0.49	1.92	0.55	-1.29	0.43	0.02	1.61	-0.70	0.20	0.00	
F	3.24	0.51	1.09	1.96	-0.32	0.53	-0.09	0.05	-1.07	0.18	0.02	
M+F	6.22	0.92	2.12*	2.01*	-1.07	0.95	-0.23	1.14	-1.26	0.20*	0.01	

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

M – men; F – women; H – [H] Kruskal-Wallis test; U – Mann-Whitney U-Test; r – Spearman correlation coefficient;

R2 – determination coefficient of achievement motivation: vh – very high, h – high, m – medium, l – low, vl – very low

DISCUSSION

The statistical analysis fully confirmed the hypothesis that the investigated fencers were characterized by low reactivity. This hypothesis has been based on the assumption that a low reactivity level may significantly enhance a fencer’s activity

on the piste as well as his/her general sports performance [3, 5, 15]. It was forecasted that a low-reactive fencer was able to act efficiently not only in conditions of strong direct stimulation but of long-lasting and tiring training, requiring the body’s mobilization, good psycho-physical resistance, and cognitive control.

The fencers under study are characterized by a high level of the mobility of nervous processes, that may be reflected by immediate and adequate reaction to the changing conditions during individual competitions (an opponent using different fight styles) and fencing bouts (a fencer changing his/her fight style).

The assumption of a relatively high braking level was also confirmed in the analysis. The ability of conditional braking may be particularly useful in order to abstain from repeated actions giving no advantages during the fight. Moreover, the opponent's frequent provocations may be effectively ignored thanks to the proper level of the temperamental feature. During a fencing bout, in which aggression might be directed, among others, towards the referee, effective damping of some reactions may be particularly advantageous.

The characteristics of fencers' achievement motivation point to some interesting conclusions. The average value and median were placed in the upper part of the range of average results. Hence, the assumption that competitive fencers are distinguished by high achievement motivation was not fully confirmed. The idea that a competitive athlete with low motivation of success may be quite ineffective has been commonly known. Such athletes often display a tendency to resign from action [9]. Nevertheless, it is also known that in the case of excessively elevated achievement motivation, resistance to failure might be impaired. This is due to the fact that athletes focusing on achieving good results may act far worse than athletes who are not exaggeratedly interested in results [9]. The pursuit of victory at any cost may result in excessive development of emotional stimulation which disadvantageously affects the ability of reasonable assessment of the current situation [1, 2, 10].

On the other hand, the relationships between the competitors' temperamental features and achievement motivation in competitors seem to be very interesting. In spite of the fact that low reactivity and high mobility of nervous processes seem to be interrelated with high achievement motivation, the relationship may be of intermediate character. The tendency to display highly stimulating features and the possibility of proper adequate reactions to the environmental stimuli may be conducive to shaping an appropriate level of motivation to success. On the other hand, there are fencers with high reactivity and low mobility

and with high achievement motivation. Such characteristics are due to a favorable environment for shaping the need of achievements, with proper conditions for exercises related to awarding and punishing, self-identification with people of significance for the fencer (e.g. coach), their actions and attitude to sports successes, affiliation with a social group in which high standards related to the successes occur, etc. The situation may be different when a highly reactive fencer is placed in an unfavorable environment for shaping the motivation to succeed. A competitor featuring such temperamental characteristics may create an anxiety of fault much faster in the situations in which the faults are punished (without rewarding the successes). This concerns particularly the young fencers. In other words, the low-reactive fencers may better react in a situation of defeat, regardless of any disadvantages. On the other hand, in the case of highly reactive competitors, defeat can quickly discourage them from further activity and continuously decrease their aspiration to the high demand of success.

Another interesting aspect of a higher motivation level characterizing lowly reactive competitors as compared with the highly reactive ones may be reflected by the mechanisms of regulation of emotional stimulation. This is due to the fact that a high stimulation level resulting from high achievement motivation does not disorganize the activity of lowly reactive competitors, allowing for their optimal mobilization to the effort, contrary to the fencers featuring high reactivity.

Conclusions

1. The group of competitive fencers under study generally displayed a low level of temperamental reactivity, i.e. high stimulation strength.
2. The fencers can be distinguished by their generally high level of mobility of nervous processes and strength of braking processes.
3. An average level of achievement motivation was found in most of the considered fencers.
4. Low temperamental reactivity, high strength of braking processes and mobility of nervous processes are advantageous for fencers' high achievement motivation.

Practical recommendations

The above results and conclusions allow formulating the following practical recommendations for fencing training:

1. In the development of selection criteria and during fencing training it should be noted that prospective highly efficient competitive fencers can be found among individuals with low temperamental reactivity, high mobility of nervous processes and medium and high levels of achievement motivation.
2. For the purpose of the training process those behaviours of fencers should be intensified which may be regarded as reflections of development of their optimal level of achievement motivation.
3. Taking into account that high achievement motivation is conducive to low reactivity and high mobility of nervous processes, a set of positive and negative intensifications should be chosen efficiently. This is of particular significance in the case of highly reactive competitors. Such an approach enables creating their optimal level of achievement motivation.
4. Special care should be applied with regard to negative intensification in the case of competitors of increased temperamental reactivity as they give fewer chances for shaping an optimal level of achievement motivation, due to their particular emotional sensitiveness to defeats.

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