

## **Aspects regarding the motivation of fencers**

### **Aspecte privind motivația sportivilor care practică scrima**

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#### **Abstract**

*Background.* Motivation is one of the most important variables in sports practice and a key-element that facilitates both performance and a positive experience.

*Aims.* The main aim of this study is to determine the dominant type of motivation in fencing athletes (sabre fencing), as well as the type of motivation related with the subjects' gender and age.

*Methods.* To assess the seven subscales of motivation, we used the Sport Motivation Scale Questionnaire (SMS-28). The study took place in Iași, at the beginning of September 2014, during the National Junior Fencing Championships. The research sample comprised 69 fencers aged between 12 and 20 years. Depending on age and gender, the subjects were divided into two groups: 12-15 and 16-20 years.

*Results.* Male athletes obtained lower scores in all three types of intrinsic motivation and higher scores in intrinsic motivation and amotivation, compared to female athletes. The second group, 16-20 years, obtained higher scores for intrinsic motivation (all three types), extrinsic motivation (introjected regulation subscale), and amotivation, compared to the first group.

*Conclusions.* We found that female fencers are more intrinsically motivated compared to male fencers, and cadets and juniors are more intrinsically motivated than the 12-15 years-old group.

**Key words:** motivation, fencing, juniors, intrinsic, extrinsic.

#### **Rezumat**

*Premize.* Motivația reprezintă una dintre cele mai importante variabile în practicarea sportului și un element cheie care va facilita nu doar obținerea performanței, ci și o experiență pozitivă.

*Obiective.* Obiectivul acestui studiu constă în determinarea tipului de motivație care predomină la practicanții scrimii, respectiv sabie, precum și analiza tipului de motivație în raport cu genul și vârsta participanților.

*Metode.* Șapte tipuri de motivație au fost măsurate cu Scala Motivațională în Sport (SMS-28). Cercetarea a fost realizată la începutul lunii septembrie 2014, cu ocazia desfășurării la Iași a Campionatelor Naționale de Scrimă pentru juniori. Lotul de subiecți a cuprins un număr de 69 de sportivi care practică scrima (sabie), cu vârsta cuprinsă între 12-20 ani. În funcție de vârstă și gen, subiecții au fost împărțiți în două loturi: 12-15 ani și 16-20 ani.

*Rezultate.* Rezultatele au arătat că sportivii au obținut un scor mai mic la cele trei tipuri de motivație intrinsecă și un scor mai mare la motivația extrinsecă și amotivație, comparativ cu sportivele. Subiecții din lotul 15-20 ani au obținut un scor mai mare la motivația intrinsecă (toate cele trei tipuri), la motivația extrinsecă, componenta reglare prin introiecție, precum și la amotivație.

*Concluzii.* Rezultatele acestui studiu indică faptul că fetele sunt mai motivate intrinsec comparativ cu băieții, iar sportivii cadeți și juniori mai motivați intrinsec comparativ cu cei din lotul 12-15 ani.

**Cuvinte cheie:** motivație, scrimă, juniori, intrinsec, extrinsec.

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## **Introduction**

Motivation represents all reasons or mobiles (conscious or not) that determine a person to conduct a certain action or achieve certain goals (\*\*\*, 2007). For a better understanding, specialists in the field have divided it into intrinsic motivation, extrinsic motivation, and amotivation (Ryan & Deci, 2000). Intrinsic motivation is the form of motivation involved when a person decides to do an activity for personal satisfaction (Deci & Ryan, 1985). Intrinsically motivated individuals engage voluntarily – in a way that

involves will and personal control – in activities of their interest (Crăciun, 2008). Vallerand & Ratelle (2002) have proposed the existence of three forms of intrinsic motivation: a) toward knowledge – which involves the pleasure and satisfaction that one experiences when learning new things; b) toward accomplishment – trying to reach new personal objectives; c) toward experiencing stimulation – engaging in order to experience stimulating sensations, fun and excitement. Extrinsic motivation pertains to a situation when an activity is done in order

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to attain some outcome or reward. Deci & Ryan (1985, 1991) identify three types of extrinsic motivation, ordered from the lowest to the highest level of self-determination: a) external regulation (to attain a tangible reward or to avoid a threatening punishment); b) introjection regulation (a partial internalisation of extrinsic motivation, when the individual feels pressure, though it may be self-imposed); c) identified regulation (the individual decides to engage in an action that is not very interesting per se, but is nonetheless important, because it is useful for attaining a valued goal; in other words, in identified regulation, the activity still has extrinsic reasons, but the said activity is internally regulated and self-determined).

Motivation is one of the most important variables in sports practice and a key-element that facilitates both performance and a positive experience (Vallerand, 2004). Previous studies found that women are more motivated to engage in sports, because they have more intrinsic than extrinsic motives (Chantel et al., 1996), while others found that intrinsic and extrinsic motives are equally involved in the practice of any type of sports activity (Ryan et al., 1997). In this connection, Ryan and others demonstrated that different sports entail different motivations. Other studies posit that motivation is also different depending on gender. Both adults and children were found to have different motives (Chantel et al., 1996). In performance athletes, it was found that extrinsic motivation is superior to intrinsic motivation, while female athletes reported higher levels of intrinsic motivation compared to male athletes (Chantel et al., 1996).

## Hypothesis

While practicing a certain sport, during sports training, the specificity of the said sport influences balance on the preferred leg. Hence, this paper aims to analyze body balance on the preferred leg in beginners aged between 10 and 13 years - practitioners of gymnastics and fencing – and to pinpoint the differences arising in two different conditions: eyes open and eyes closed.

## Material and method

### Research protocol

#### a) Research period

The investigation was conducted at the beginning of September 2014, during the National Junior Fencing Championships, which took place in Iași. We mention that, in agreement with the Declaration of Helsinki, the Amsterdam Protocol and Directive 86/609/EEC, all study procedures were approved by an ethics commission within the Faculty of Physical Education and Sport concerning investigation on human subjects, and that we obtained the oral consent of

trainers and athletes participating in the study.

#### b) Subjects

Our research sample comprised 69 sabre fencers, aged between 12 and 19 years.

#### c) Tests

To assess the seven subscales of motivation, we used the Sport Motivation Scale Questionnaire (SMS-28) (Pelletier et al., 1995):

- intrinsic motivation (IM), with the three components: toward knowledge (IM1); toward accomplishment (IM2), and toward experiencing stimulation (IM3);

- extrinsic motivation (EM), with the three components: external regulation (EM1); introjection regulation (EM2), and identified regulation (EM3);

- amotivation (AM).

#### d) Statistical analysis

For statistical calculations, we used SPSS 20.0 for Windows; we calculated Pearson's correlation, as well as the mean and standard deviation, based on which the *t* test for independent samples was applied; the equality of variance requirement was met following the application of Levene's test.

## Results

Pearson's correlation between the Sport Motivation Scale and age, and Cronbach's coefficient alpha are shown in Table I.

We assessed sex and age differences by using the *t* test for independent samples; Levene's test for the homogeneity of variances had an insignificant value:  $p > 0.05$ . We found that male athletes obtained a lower score in the three types of intrinsic motivation and a higher score in extrinsic motivation and amotivation, compared to female athletes (Table II). Significant differences between genders were recorded for EM1 and EM3 (Table III). Depending on age, the subjects were divided into two groups: the 12-15 year age group (children and future athletes) and the 16-20 year age group (cadets and juniors). The subjects of the first group obtained a higher score for EM1 and EM3 and lower scores for all the other types of motivation (Table IV). For all types of motivation, no statistically significant differences were found between the two age groups (Table V).

**Table II**

SMS score (mean±SD) for all subjects by genders (male vs. female).

Subjects	IM1	IM2	IM3	EM1	EM2	EM3	AM
male	5.01	4.99	4.97	4.78	4.63	4.45	2.84
N=35	±1.65	±1.39	±1.54	±1.33	±1.32	±1.68	±1.22
female	5.05	5.35	5.08	4.09	4.14	3.14	2.13
N=34	±1.35	±1.25	±1.27	±1.10	±1.38	±1.37	±1.15
Total	5.03	5.17	5.02	4.44	4.39	3.94	2.49
N=69	±1.49	±1.33	±1.40	±1.26	±1.36	±1.61	±1.23

**Table I**

Pearson's correlation between SMS and age, Cronbach's coefficient alpha.

	IM1	IM2	IM3	EM1	EM2	EM3	AM	Age
IM1	-	0.709**	0.813**	0.666**	0.563**	0.529**	-0.323**	0.081
IM2	-	-	0.710**	0.388**	0.512**	0.368**	-0.446**	0.109
IM3	-	-	-	0.557**	0.488**	0.467**	-0.293*	0.073
EM1	-	-	-	-	0.631**	0.631**	-0.097	-0.078
EM2	-	-	-	-	-	0.659**	-0.123	0.658
EM3	-	-	-	-	-	-	0.078	0.072
AM	-	-	-	-	-	-	-	0.104
Cronbach's alpha	0.739	0.779	0.753	0.755	0.755	0.754	0.890	-

**Table III**  
The *t* test for equality of means male vs. female.

Variables	Levene		Mean diff.	Sign.	<i>P</i>
	F	Sign.			
IM1	3.196	0.078	-0.037	0.919	>0.05
IM2	1.126	0.292	-0.360	0.265	>0.05
IM3	1.046	0.310	-0.102	0.766	>0.05
EM1	1.664	0.201	0.690	0.023	<0.05
EM2	0.032	0.859	0.488	0.139	>0.05
EM3	1.180	0.281	1.030	0.007	<0.05
AM	0.019	0.891	0.703	0.017	<0.05

**Table IV**  
SMS score (mean±SD) by age categories.

Age	IM1	IM2	IM3	EM1	EM2	EM3	AM
12-15	4.91	5.02	4.92	4.54	4.37	3.82	2.37
N=35	±1.60	±1.35	±1.44	±1.34	±1.48	±1.64	±1.11
16-20	5.15	5.31	5.13	4.34	4.41	4.05	2.62
N=34	±1.39	±1.31	±1.37	±1.19	±1.25	±1.59	±1.34

**Table V**  
The *t* test for equality of means by age categories.

Variables	Levene		Mean diff.	Sign.	<i>P</i>
	F	Sign.			
IM1	0.913	0.343	-0.240	0.510	>0.05
IM2	0.042	0.838	-0.287	0.375	>0.05
IM3	0.091	0.762	-0.204	0.551	>0.05
EM1	0.310	0.580	-0.197	0.552	>0.05
EM2	0.969	0.329	-0.047	0.886	>0.05
EM3	0.002	0.964	-0.230	0.558	>0.05
AM	0.596	0.443	-0.253	0.398	>0.05

## Discussions

The main objective of this study was to determine the dominant type of motivation in fencing athletes (sabre fencing), as well as the type of motivation related with the subjects' gender and age. For the two types of motivation (intrinsic and extrinsic), we obtained a moderate to strong positive correlation, while for amotivation, a negative correlation (significant for intrinsic motivation and insignificant for extrinsic motivation) was obtained. Cronbach's coefficient alpha had an internal consistency of 0.80 for the seven items, and between 0.73 and 0.89 for each item. Pelletier et al. (1995), Martens & Webber (2002), Sloan & Wiggins (2001), Beaudoin (2006) reported similar findings.

In the subjects of our study, intrinsic motivation was dominant. We found the highest score for IM2 (toward accomplishment). Female athletes were more intrinsically and less extrinsically motivated compared to male fencers; however, the differences were not statistically significant. Briere et al. (1995) and Pelletiere et al. (1995) found similar results. These results are somewhat different from other studies: male athletes scored higher in all items compared to female athletes (Filho et al., 2010); we found significant differences in EM1 and AM and higher scores for male athletes in all types of motivation (Nunez et al., 2006). We obtained significant differences between genders in two of the three types of extrinsic motivation (EM1 and EM3). For EM1, boys obtained a higher score compared to girls, which means that material reward is an important motive in sports practice.

We did not find significant differences between fencers depending on age. Nonetheless, the 16-20 year age group was more intrinsically motivated in all three variables. At

the age of 12-15 years, trainers use rewards to encourage young athletes to practice sport (Lazarevic, 2001), which is also apparent in our study, through the results of extrinsic motivation (EM1).

It is assumed that intrinsic motivation for a target-activity is based on the subjects' interest in a certain activity, due to its interesting and pleasant nature (Vansteenkiste & Deci, 2003). In sport, obtaining sports performance is determined by both internal and external motivational factors. In their turn, these depend on the basic needs of the human being, but also on the action of external, social, and pedagogical factors (Nae, 2010).

We also mention several limitations of our study, which prevented us from approaching other aspects. The subjects belong to different types of clubs (school, governmental, county, and private clubs), and the performance level is age dependent. We remind that the Regulation of the Romanian Fencing Federation stipulates that fencers over 12 years of age can attend junior competitions, while fencers over 13 years can attend all competitions for seniors. Furthermore, girls participated in our study before competition, while boys participated during and after competition. Hence, we were unable to make a comparison between medal-winning athletes (in individual or team events) and the other subjects.

## Conclusions

1. In junior fencers, intrinsic motivation is dominant.
2. Girls who attended the National Junior Fencing Championships were more intrinsically and less extrinsically motivated than boys.
3. The 16-20 year age group was more intrinsically motivated than the 12-15 year age group.

## Conflicts of interest

Nothing to declare.

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