

Structure and conditions of “weapon feeling” in high level athletes specializing in different kinds of fencing

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Abstract

Background and Study Aim:

The aim of this study was: determining the term of “*weapon feeling*”, establishing the dependence between “*weapon feeling*” and precision of weapon movements, identifying the impact of the physical properties of the weapon on the level of “*weapon feeling*”, defining the training period in which the best “*weapon feeling*” may occur.

Material/Methods:

71 top Polish male and female athletes specialising in various forms of fencing took part in the study (9 female foil, 15 female épée, 19 male foil, 18 male épée and 10 sabre fencers). A questionnaire was composed of 26 questions related to personal data of the competitors as well as to the definition of the more efficient and precise hand or leg and to the definition of the structure of the conditions determining the “*feeling of the weapon*”.

Results:

It was ascertained that the “*weapon feeling*” is an ability of accurate handling of the tip of the blade, and of controlling its movement. It was confirmed that “*weapon feeling*” is primarily manifested in the ability of mastering the tip of the blade. It was also defined that “*weapon feeling*” was manifested in different ways, depending on the interpretation of the term by the given fencer. In most cases it was reflected in accurate handling of the tip of the weapon, quick and accurate response. Apart from the precision of movements with the weapon, its level of feeling is affected also by: the ability to concentrate, high level of technique, smoothness and rapidity of movements of the competitor as well as physical traits of the weapon. In the training cycle, starting period is characterised by the highest level of “*weapon feeling*”.

Conclusions:

1. “*Weapon feeling*” may be defined as the ability of accurate directing the end of the weapon, quick and adequate responding to the opponent’s movements, and smooth execution of movements with the weapon. 2. There is significant dependence between “*weapon feeling*” and precision of movements made with the weapon. Its level of feeling depends on: ability to concentrate, high technique level, smoothness and speed of the athlete’s movements. 3. Physical properties of the weapon, especially its modification affect to a large extent the change in the level of “*weapon feeling*”. 4. The highest level of “*weapon feeling*” in tested fencers was noted in the starting period, and the lowest one – in the preparatory and in the transitory periods.

Key words:

fencing • „weapon feeling” • women • men • sable • foil • epee • conditions

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BACKGROUND

Fencing movements are considered to comprise habits of feeling and movement applied in response to the opponent’s movements. We may divide such reactions into foreseeable (simple ones), unforeseeable and partly foreseeable reactions. The latter ones belong to manifestations of a complex reaction associated with a choice,

i.e. we are not familiar with the stimulus that affects us, but depending on its time we react appropriately.

“We may consider the movement habit to be a learned ability based on neurophysiologic mechanisms of achieving the assumed results in movements with maximum certainty, with a minimum loss of time and energy, and in many cases (naturally as it comes to people) in condition of secondary lack of conscious action.” [1, p. 111].

The movement habit is an important component in the training process of fencers. With its advancement redundant muscular tonus and associated movements tend to vanish, and the fencer starts to perform his or her movements in a much more precise way, with greater accuracy and also much quicker, smoother, maintaining the required rhythm. According to Z. Czajkowski: *“As the movement habit is advanced the importance of sight control decreases in favour of movement and muscular (kinaesthetic) control; nevertheless sight control is not eliminated – it changes its importance, and is aimed at evaluation of the situation and results of a movement. If a movement habit is well mastered, the action is performed almost without conscious awareness, but it is possible to control consciously the beginning and the course of the given action (all mistakes in the performance are immediately noticed, the same action can be performed in different ways).”* [1, p. 112].

Z. Czajkowski [1, p. 19] stated that on a ‘worse day’ (worse wellbeing, slowed reaction rate) – the rule of the right of way for certain acts that is binding for sabre and foil does not apply for the épée player, and the electrical device registers *“mercilessly”* each delay in movement or lower speed with which the movement is made.

The ability of quick and accurate reacting to complex actions of the opponent which are difficult to foresee requires well developed movement coordination and especially an effective system of receiving and processing information concerning actions of the opponents, as well as functioning of own organism. **“Kinaesthetic impressions, which are colloquially called muscular feeling, are an important part of movement coordination, and form in a certain way its higher level, because this allows the appearance of exceptional movement precision. Sensations are connected with a specific movement and refreshed thanks to such movement, and its forgetting entails forgetting the sensations.”** [2, p. 12].

According to N. W. Zimkin [3, p. 85] movement coordination is: *“...an ability of a human to perform movement acts that are complex as regards coordination relations, an ability of becoming reoriented from performing one type of coordinated movements into others, as well as the skill of quick execution of new movement acts appropriately to unforeseeable new tasks...”* [4, p. 85]. W. Starosta defined movement coordination as: *“the ability of a human to executing complex movements accurately, quickly and in variable conditions”* [4, p. 83]. According to W. Ljach movement coordination comprises: *“...psychomotor properties that define readiness to optimum controlling and movement regulation of a human.”* [5, p. 14]. From the biomechanical viewpoint coordination was defined as follows: *“...joint functioning of physiological mechanisms that assure the execution of a real and specific movement task in line with the movement programme.”* [6, p. 308]. W. Starosta called movement coordination: *“...a*

feature that integrates the manifestation of other properties or an organiser of their joint functioning during various movement activities. That is why it may be called a super trait, or – as some call it – a phenomenal trait.” [7].

W. Farfel divided movements according to their complexity into three levels. The first one is characterised by the fact that movements are performed with accuracy, and their speed is of no importance. This level may be measured by execution of a given task and the time necessary for its execution. The second coordination level comprises movements performed with accuracy and quickness at the same time. *“The second coordination level may be evaluated with the use of tests in which the execution time is a measure of a certain type of a complex exercise, such as for example covering a distance of 10 m including execution of backward somersaults in specified places. The structure of such attempts should take into account the age of subjects, their sports advancement and potentially even the discipline in which they are specialised.”* [8, p. 158].

On the third movement coordination level the movements have to be performed quickly, accurately and appropriately to changing conditions. In fencing an athlete is to hit the opponent during the fight. The number of movements with the help of which it is possible to execute this task is relatively small. The possibility of applying various technical actions without having to set up their sequence gives rise to the necessity of choosing in an instant from one’s set of attack and defence means those elements, which appear to be the most appropriate to the new situation. These requirements relate to the third movement coordination level. A fencer with high technical abilities can make such a choice much quicker, and one on a lower level – needs more time. For this reason we may conclude that a measure of the third coordination level may be the time necessary to choose the appropriate movement and its quick and precise execution in suddenly changing conditions [8, p. 159].

At a similar development level of the athletes’ fitness abilities – an element that determines success will be the level of coordination skills manifested by them. It is that particular level that determines among others *“feeling of ball”, “feeling of water”, “feeling of ice”, “feeling of opponent and partner”* and other specific terms – which are more important constituents of technical master-ships [7, p. 64].

From the physiological viewpoint feeling has been defined as follows: *“...simple mental sensation which comprises a subjective evaluation of stimuli that act on appropriate receptors.”* [9, p. 103]. Receptors were divided into **tele-receptors** with an ability of receiving stimuli from a certain distance. They comprise the receptors of sight and

hearing. **Interoceptors** – transfer information from internal organs, our awareness only receives information related to pain. **Exteroreceptors** – placed on the skin and in the subcutaneous tissue, which react to pressure, pain, change in temperature. **Chemoreceptors** respond to chemical particles that reach the mucosa, in which they function – there are receptors of smell and taste.

Proprioreceptors are considered to be of considerable importance, and include muscle spindles, tendinous organs and the balance organ [10, p. 14]. Muscle spindles and tendinous organs transfer information to the central nervous system about changes taking place in muscle actions, situation of body parts in relation to each other and in space. The balance organs are also considered to belong to proprioreceptors. Information coming from them concerns the movement of the head and its position in space. It is used to assist the process of coordinating the muscle activity. Their particular importance is noted in actions aimed at maintaining body balance [10, p. 44].

Proprioreceptors are crucial for movement activity of man. Those receptors inform our nervous system of the movement we are performing. They also “inform” about there being no type of stimulations received. They allow controlling movements, as well as making corrections while the movement is executed. According to I. Malarecki: *“Proprioreceptive impulsation is a basis for kinaesthetic sensations which are an ‘image’ of the performed movement structures. Kinaesthetic sensations may be fixed and then recreated. This is connected with the existence of proprioreceptive or kinaesthetic memory, which allows recreation not only of kinaesthetic sensations, but also repeating movement elements, which is of great importance in teaching movement habits.”* [11, p. 48].

Feeling may be found in all sport disciplines. This may be for example *“feeling of ball”* (in sport games), *“feeling of water”*, *“feeling of opponent”*, *“feeling of tartan”*, *“feeling of playing field”*, *„feeling of time”*, *„feeling of ice”*, *„ feeling of the partner”* or *“weapon feeling”*. Here are some definitions of specific types of kinaesthetic sensations formulated by different authors. **“The feeling of water”** means a high level of coordination abilities, which allows full adaptation to the water environment and rational moving in it with the use of minimum energy” [4, p. 16]. **“The feeling of the ball”** means very precise and accurate differentiation of stimuli which reach the electronic scoring apparatus during an operation performed with the ball, thanks to which the ball player can relate his movements in a very precise way to all properties of the ball” [12, p. 25]. According to T. Rudik: *“The basis for significant development of “the feeling of water” is constituted by specialist complex sensations which are being shaped thanks to precise, accurate differentiation of sight, muscular-movement and touch stimuli. It is formed thanks to exercises made with the ball.”* [13, p. 410]. **“The feeling**

of the opponent” in wrestling is an ability of foreseeing, sensing and immediate reacting to an action – an opponent’s movement” [14]. **“The feeling of the sleigh** is an ability of directing and full mastering of the sleigh as well as the capacity of receiving sensations related to behaviour of the sleigh during the ride” [15, p. 67]. In kayaking M. Wendorff [16] undertook formulating a definition of the term **“the feeling of water”**.

AIMS AND HYPOTHESES

A lot of definitions have been formulated to determine different types of feeling, but nobody has yet tried to determine the term of *“weapon feeling”* in athletes specialised in diverse forms of fencing. Defining the term of *“weapon feeling”*, determination of dependence that occurs between the feeling and precision of movements made with the weapon, identification of the impact exerted by weapon parameters on the level of its feeling and determination of the training period in which *“weapon feeling”* was the highest, would allow better identification of rules in this particular discipline. It has become possible to determine methodological guidelines, the introduction of which to the training process may prove to be conducive to the achievement of better sport results by the fencers. For those reasons studies were undertaken, which were **aimed** at: 1. Determination of the term of *“weapon feeling”*. 2. Determination of dependence between *“weapon feeling”* and precision of weapon movements. 3. Identification of the impact that physical properties have on the level of *“weapon feeling”*. 4. Identification of the training period in which the best *“weapon feeling”* may be found.

The following **hypotheses** were adopted in the process of driving at achievement of the adopted objectives: 1. *“Weapon feeling”* is manifested by the ability of controlling the weapon tip. 2. A dependence exists between the level of *“weapon feeling”* and precision of movements made with the weapon. 3. Physical properties of the weapon have a significant impact on *“weapon feeling”*. 4. In the starting period the highest level of *“weapon feeling”* may be noted.

MATERIAL AND METHODS

71 male and female athletes specialised in various forms of fencing, training in 21 sport clubs all over Poland, took part in the study. For needs of further work on the questionnaires it was necessary to have the studied female and male athletes divided with respect to gender and type of specialisation. In such a way five groups were established, two female groups: female foil players and female épée players; and three male groups: male foil players, male épée players and male sabre players. The



Table 1. Gender, age, experience and specialisation of subjects (n=71).

Gender	Specialisation	Age [years]		Experience [years]	
		M	SD	M	SD
Women	Foil	17.6	1.74	6.7	2.22
Women	Épée	17.3	1.44	6.4	1.37
Men	Foil	17.2	1.58	6.5	2.04
Men	Epee	17.3	1.45	5.9	1.59
Men	Sabre	17.7	1.16	7.2	1.75

Table 2. The term of “*weapon feeling*” in the opinion of advanced athletes specialising in fencing (%) (n=71).

Types of weapons	Most frequent responses				Others [%]	N
Épée M*	Ability of accurate handling of the weapon (20.8)	Ability of making good use of the weapon (12.5)	Ability of making smooth movements with the weapon (12.5)	Feeling of the point (8.3)	45.9	18
Sabre M	Handling the tip of the blade (30.0)	Good training of the athlete (10.0)	Feeling and good mastering of the weapon (10.0)	Become one with the sabre (10.0)	40.0	10
Foil M	Ability of making good use of the weapon tip (28.0)	This is a feeling of the blade point (16.0)	Accurate hits (8.0)	Sensing the foil weight (8.0)	40.0	19
Épée W*	Precision of performed action (17.9)	Accuracy (14.3)	Mastering weapon movements (10.7)	Accurate manipulation of the point (10.7)	46.4	15
Foil W	Correct handling of the point (23.1)	Ability of mastering weapon movements (23.1)	Ability of making free planned actions (7.7)	Feeling of the point (7.7)	38.4	9

* M – men; W – women.

tests comprised 24 female athletes, including 9 female foil players and 15 female épée players. Furthermore, “*weapon feeling*” was determined in 47 males: 19 foil players, 18 male épée players and 10 sabre fencers (Table 1).

In the study use was made of a questionnaire devised by W. Starosta which comprised 26 questions. It was made of two parts. The first part contained twelve questions pertained to personal data of the tested athletes and to definition of the better and more accurate hand and leg. The second part comprised twenty five questions aimed at identification of structure and considerations of “*weapon feeling*” in men and women athletes specialising in various types of fencing. The study was carried out in the Institute of Sport in Warsaw and was directed by W. Starosta. The participating fencers responded to the questions individually.

RESULTS

1. Endeavour at definition of the term “*weapon feeling*”

The concept of “*weapon feeling*” was new to the subjects. Most likely their majority came upon this term for the

first time when filling out this questionnaire. The subjects were to try and determine what they considered to be associated with the term of “*weapon feeling*”. The most frequently given responses have been presented in Table 2.

A review of responses given by the athletes indicated that “**weapon feeling**” is an ability of accurate handling of the tip of the blade, controlling its movements, which is an ability of making accurate hits. An athlete with good “*weapon feeling*” is able to respond to the opponent’s movements quickly and with accuracy. The obtained results confirm the assumption stipulating that “**weapon feeling**” is primarily manifested in the ability of mastering the tip of the blade. In addition, a more extensive description has also been worked out for the term “*weapon feeling*” and ways were defined in which it becomes manifested in fencing (Table 3). To conclude “*weapon feeling*” tended to become manifested in different ways, which depended on interpretation of the term by the given fencer. In most cases it was reflected in **accurate handling of the tip of the weapon**, quick and accurate response, and all this was connected with hitting with a great accuracy a place set out in advance by the athlete.

Table 3. The most frequently mentioned ways in which “weapon feeling” is manifested according to the tested fencers (%) (n=71).

Type of weapon	Gender			
	Men	N	Women	N
Épée	<ul style="list-style-type: none"> • Smoothness of movements (22.2) • Accurate handling of the tip of the blade (14.8) • Accuracy of the hits (11.1) • Narrow movements of the épée (7.4) 	18	<ul style="list-style-type: none"> • Precision (31.8) • Good handling of the tip of the weapon (13.6) • Accuracy (13.6) • Quick response (4.5) 	15
Foil	<ul style="list-style-type: none"> • Making hits with great accuracy (20.8) • Accurate handling of the weapon tip (16.7) • Better handling of the weapon tip (8.3) • Effectiveness (8.3) 	19	<ul style="list-style-type: none"> • Precision in hitting the opponent (31.3) • Making good guards (6.3) • Easiness in mastering the tip of the blade (6.3) • Good form during given tournament (competition) (6.3) 	9
Sabre	<ul style="list-style-type: none"> • Good results (36.4) • Accurate hit at the target, which i have assumed beforehand (27.3) • Better control over the weapon (9.1) • I am able to do with the sabre what i have planned to do (9.1) 	10		

Table 4. Elements forming “weapon feeling” in the opinion of athletes involved in various types of fencing (%) (n=115).

N	Weapon type				
	Épée – women	Épée – men	Foil – women	Foil – men	Sabre – men
	15	18	9	19	18
Responses [%]	<ul style="list-style-type: none"> • From accurate movements (23.3) • From precision (13.3) • From speed (6.7) • From the ability of concentrating (6.7) • From the feeling of tempo (6.7) 	<ul style="list-style-type: none"> • From good positioning of the blade tip (17.9) • From controlling the weapon by the fingers and its appropriate positioning (14.3) • From good handling of the tip of the weapon (10.7) • From handling of the weapon during a bout (10.7) • From matching the weapon type (method of twisting and parameters of the blade) to individual preferences (7.1) 	<ul style="list-style-type: none"> • Ability of making accurate hits (27.3) • From controlling the tip of the blade (18.2) • From convenience of the grip (9.1) • From feeling the tip of the weapon (9.1) 	<ul style="list-style-type: none"> • From feeling the tip of the weapon (21.4) • From feeling of the weight (7.1) • From good feeling of the blade (7.1) • From accurate handling the tip of the blade (7.1) • From accuracy of movements (3.6) • From correct technique (3.6) 	<ul style="list-style-type: none"> • From a relaxed hand (11.1) • From volume of the training (5.6) • From a good technique (5.6) • From feeling of a distance (5.6) • From feeling the weight of a sabre (5.6) • I don't know (5.6)
No response [%]	6.66	3.57	18.15	0	0
Others [%]	36.66	35.71	18.15	50	61.11

2. The dependence between “weapon feeling” and precision of movements made with the weapon

Precision of weapon movements affects to a large extent the high level of “weapon feeling” of fencers, and is one of the constituents of “weapon feeling” (Table 4). In training particular attention shall be drawn to advancing skills related to making precise movements with the weapon.

Consequently, evidence was found to the hypothesis that dependence exists between “weapon feeling” and precisions of movements made with the weapon. This dependence is nevertheless significant but certainly not determined by nature, because apart from precision of movements made with the weapon the level of its feeling is also affected by such factors as the ability of concentration, high technique level, and also the smoothness and tempo of movements made by the athlete (Table 4).

Table 5. Description of the best and the worst training period in the opinion of tested fencers (%) (n=71).

Training period	The best period	The worst period
Preparatory period	<ul style="list-style-type: none"> • The athlete tries harder (9, fm) • Preparation for starting is accurate and precise (11, epw) • Care is taken of the technique (4, 13, sm) • More time is spent on improving handling of the weapon (16, sm) • I do not feel any stress (1, fw) 	<ul style="list-style-type: none"> • “Weapon feeling” is only in the preparatory phase (9, sm) • The hand has not been warmed up yet (5, sm) • Because i am training setting of the foil (2, 5, fm) • Overtraining (4, fm) • Considerable effort (4, fm) • Less training with weapons (17, fm; 7, epw) • The hand has not been accustomed to effort (10–11, 14, fm) • No experience (1, epw) • Exhaustion with the training causes that “weapon feeling” is not too good (12, fm)
Starting period	<ul style="list-style-type: none"> • This depends on ambition, in the starting period one wants to be the best (1, sm) • This is a period in which the training results are the best – frequent use of the weapon (2–3, 8, sm; 8–9, epw) • Those are training assumptions (6–7, sm) • The athlete is under pressure and in such a situation the “weapon feeling” just happens (9, sm) • During the tournament the athlete is best focused (1, fm; 2, 7, sm) • “Weapon feeling” has already been mastered (2, 5, fm) • During the tournament “weapon feeling” is the best (3, fm) • One begins to want to fight and win (17, fm) • The hand is well trained, its movements are under control, dynamic, precise (10–11, 13, fm) • I am learning new techniques (12, epw) • The biggest number of starts (7, epw) • The best form (8, sm) • The focus and mobilisation are the best (5, fw) • The preparatory period has been completed and appropriate results have been achieved (6, fw) • The hand, the entire body are relaxed (7, fw) • The hand is well positioned (14, epw) • There is good focus and mastering of each part of the body (13, epw) 	<ul style="list-style-type: none"> • Because of stress during the tournament (15, fm)
Transient period	<ul style="list-style-type: none"> • The hand has been warmed up (5, sm) • This is the time when i get ready (3, epw) 	<ul style="list-style-type: none"> • The athlete is relaxed (1, sm) • No trainings (2–3, 6, sm; 1, sm; 1 fw) • The hand is weak and not accurate (14, epw) • Relaxation, respite after starts (11, epw; 4, 16, sm) • Exhaustion (7, sm) • No motivation in training (5, sm)

FM – foil men; FW – foil women; EPW – épée players women; SM – sabre men; 7 – number of persons.

3. Impact of physical properties of the weapon on the level of “*weapon feeling*”

Physical properties of the weapon affect significantly the way it is felt. **Of particular importance is the selection of the appropriate weight of the weapon and of its hardness, because the lighter is the weapon, the easier it is to use it.** The weapon should also be well balanced, have the appropriate shape of the hilt and “*bend at the bellguard*”. Physical properties of the weapon have a great impact on the level of “*weapon feeling*” – which was also proven in our study. Each fencer has his or her “preferred” type of weapon, to which he or she is most accustomed. **A change of the weapon to another type lowers the level of its “*weapon feel-***

ing”, until the athlete has become ‘accustomed’ to the new equipment, and then the “*weapon feeling*” goes back to the level achieved beforehand.

For this reason it is recommended to avoid any unnecessary changes in equipment during training, especially in a starting period, when the level of “*weapon feeling*” should be the highest.

4. Training period with the highest level of “*weapon feeling*”

In the training cycle only the starting period is characterised by the best “*weapon feeling*”. The prevailing number of fencers (79.7%) indicated this period in which the highest level of “*weapon feeling*” occurs. This arises from

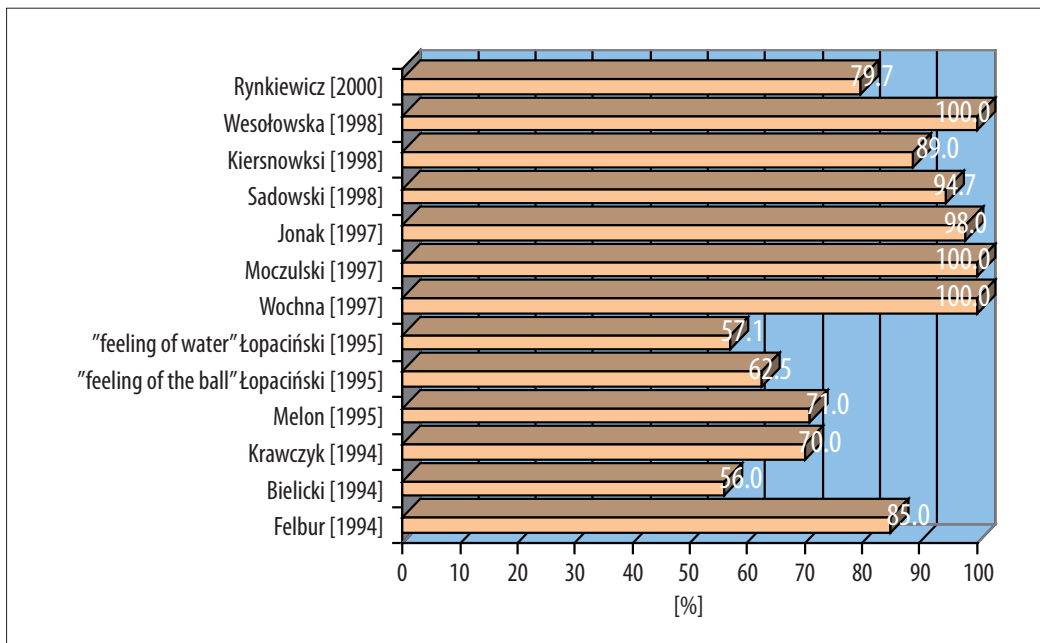


Figure 1. The highest level of feeling of the equipment in the starting period in athletes of various sport disciplines in studies conducted by diverse authors.

the large number of bouts during a tournament, which in the case of fencing may be perceived by the athletes as another element of training. The starting period is specially characterised by a strong mobilisation of fencers, a wish of winning, and strong concentration which appears before the tournament. This is all conducive to increasing of “*weapon feeling*” level, which in the starting period achieves its apogee (Table 5).

DISCUSSION

A review of available literature did not indicate the existence of any studies concerning “*weapon feeling*” in fencers. Consequently a comparison was made of results of own study with results obtained by other authors with respect to considerations related to “*ball feeling*” in various sport disciplines, among others in: basketball [17,18], handball [19], football [20], volleyball [21–23], table tennis [24,25], tennis [26,27], water ball [28], as well as those related to “*feeling of the javelin*” [29–31].

Results compiled by numerous authors confirm that in the starting period occurs the highest level both of “*weapon feeling*”, “*ball feeling*”, and “*water feeling*” as well as “*feeling of the javelin*” (Figure 1).

A review of results of research made by other authors which concerned dependencies between various types of feeling and physical properties of the equipment (among others balls, weapons, javelin, tennis racquet) implies that their change leads to a significant reduction of its level (Figure 2). R. Helbik [26] proved that under the

impact of a change of the weight, volume of the ball, as well as the wear and tear felt – the ability of foreseeing the ball flight trajectory in tennis players has been reduced. Their majority (77%) have noticed a difference in “*feeling of the ball*” caused by different stringing and racquets. The dominance of natural stringing over synthetic ones and supremacy of racquets made of graphite, Kevlar or titanium (82%) over metal or wooden racquets was proven. Also S. Wesołowska came to the same conclusion [27], according to which the studied tennis players (67%) have indicated natural stringing as one that evidently improves the level of “*ball feeling*”. In the opinion of T. Jonak [29] and T. Kiersnowski [30] javelin throwers were of the opinion that each javelin is felt by them in a different way. The way in which it is experienced by the athlete depends on its weight, balancing and execution of stringing. Among athletes practicing sport disciplines involving a ball, the prevailing opinion was that “*feeling of the ball*” changes under the influence of different types of unevenness on the surface of the ball, its weight, hardness, size (circumference) and roughness of its surface. According to R. Wochna [19]: “...the specific weight of the ball, its volume and hardness give rise to particular sensations and feelings which are recorded in the nervous system. A change in incoming stimuli caused by a change of the ball gives rise to reception of new neural impulses, leading to fluctuations in “*feeling of the ball*”. It is evident that those factors and the change of the ball lead to a change in its sensing”.

Similar results were obtained in own studies of athletes specialising in various types of fencing. A considerable

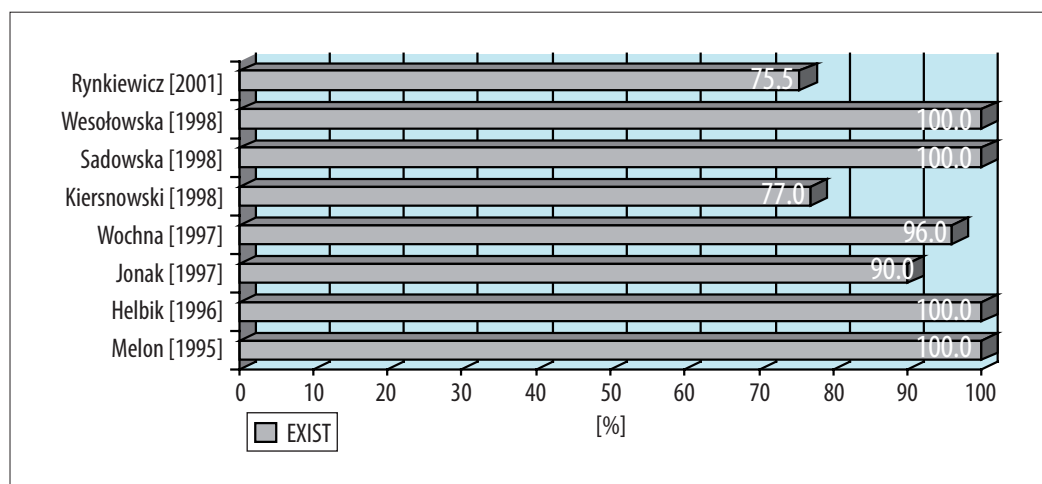


Figure 2. Dependence between a change of physical parameters of the equipment and the level of its feeling in athletes in various sport disciplines on the basis of research conducted by diverse authors.

part of the subjects (75.5%) noticed a dependence that takes place between a change if physical parameters of the weapon and the level of its feeling. The fencers mentioned the weight, hardness, flexibility, shape of the hilt, balancing of the weapon as the most important considerations, a change of which causes lowering of the “*weapon feeling*” level.

On the basis of results of studies executed by 71 fencers it proved to be possible to define: *what is “weapon feeling”, what it depends on, how is this feeling manifested, and also what affects favourably and what affects adversely the level of “weapon feeling”?* If the structure and considerations related to “*weapon feeling*” in fencers is known, it will become possible to modify the training of athletes to enhance their form during the most important tournaments. Those studies allowed to find elements which exert the most crucial impact on “*weapon feeling*” in fencers. **Elimination of disadvantageous factors may prove to be conducive to better effectiveness of sport training.**

CONCLUSIONS

1. “*Weapon feeling*” may be defined as the ability of accurate directing the end of the weapon, quick and adequate responding to the opponent’s movements, and smooth execution of movements with the weapons.
2. There is dependence between “*weapon feeling*” and precision of movements made with the weapon. This dependence is significant, yet not determinant, as apart from precision in movements made with the weapons its level of feeling also depends on other factors, such as: ability of concentrating, high technique level, as well as smoothness and speed of the athlete’s movements
3. Physical properties of the weapon, especially its modification, affect to a large extent a change in the level of “*weapon feeling*”.
4. The highest level of “*weapon feeling*” in tested fencers was noted in the starting period, and the lowest one – in the preparatory and in the transitory periods.

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