

Placebo effect – the perspective of diagnosis and therapy of aggressiveness by using fun forms of martial arts during *innovative agonology* cognitive-behavioural sessions (case study)

Authors' Contribution:

- A** Study Design
- B** Data Collection
- C** Statistical Analysis
- D** Manuscript Preparation
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ABSTRACT

Background and Study Aim:

Innovative agonology (i.e. evidence-based science about struggle) in prophylactic and therapeutic dimensions have been freshly promoted in English since 2015 in global science. The aim of this paper is theoretical argumentation based on results of randomised empirical studies and unique study case, which should make specialist of different branches of sciences aware that language, methodology, rules, directives, some methods and means of *innovative agonology* could help solve many health and surviving problems by an interdisciplinary approach.

Material and Methods:

Six 13-year-old students (one female) of school for juveniles with intellectual disability selected by head directed of this school (where one of the workshops in 2015 was conducted). Students were selected by him among group present on a hallway during a break between lessons. He agreed with our suggestion, and indicate one with increased aggressiveness. Reference group: 1,694 specialist of sports activity organisers for the youth (participants in 2014 and 2015, organised in every of 16 districts in Poland at least one two-day special courses). This first from diagnostic-therapeutic fun forms of martial arts ("modern marketplace") was conducted in three versions, two minutes each, by calling "buyer" by belt colour, code number or a mix of those two.

Results:

The placebo effect explains the results of the following observation: since is clear, that during game ("modern marketplace") belt is perceived by participants as "credit card" and human back of participants as "credit card readers", therefore, the change of the "credit card" strike in the participant's to a symbolic touch of his body it is a real, conscious correction of motor behaviour (evidence of internal transformation). During every training workshop at least two among 6 participants (33%) for every applied game ("modern marketplace") were excluded in a first minute (empirical proof of revealed aggressiveness).

Conclusions:

Capable specialist of cognitive-behavioural therapy based on *innovative agonology* can achieve surprising placebo effects. Authors obtained such results during two categories of practical consequences: diagnosing and reducing the aggressiveness of people regardless of age, gender or intellectual disability. Unique means are fun forms of martial arts. Recommendation concerns include pharmacological restriction of supporting of aggressiveness therapy as well as solving complex ethical issues.

Keywords:

fun forms of martial arts • pharmacological support • the science of struggle

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Agonology – the general theory of struggle [6] was called interchangeably (*French* agonistique, *agonologie*; *German* Agonistik, *Agonologie*). In Ancient Greece, the term *agōn* meant "a reunion, stadium, sport competitions" (also a rivalry in drama and music). It derives from term: *agōnistikós* – "apt to fight, quarrelsome"; *agōnia* – "a struggle for victory in competitions, strain, fear" [6 see also 54].

Aggression (in psychology) – is deliberate behaviour by the perpetrator intended to either hurt the opponent, harm or distress him/her in any other way, cause pain (regardless of whether this aim is achieved), or destroy things [34, 35].

Aggression (in praxeology) – is to initiate a destructive fight or move in a verbal dispute from material arguments to those causing distress to the opponent [55].

Aggressiveness – a human characteristic is manifesting itself in inclinations to hurt others, to destructive behaviour. *Aggressive* = virulent, truculent, attacking [55].

Bravery – means efficiency in good deeds, efficiency combined with estimable aspirations [55].

Simulation – caused in model an event, which under some circumstances is similar to the event occurring in examined real object [55].

Motor safety – is consciousness of the person undertaking to solve a motor task or consciousness the subject who has the right to encourage and even enforce from this person that would perform the motor activity, who is able to do it without the risk of the loss of life, injuries or other adverse health effects [56].

INTRODUCTION

The basic premise of this work is one of the sublime paradoxes which consists in invoking the authority of science in very difficult situations for achievements or provide optimal quality of life from micro to macro scale: despite the constant struggle of a man in every possible way and means, **agonology** is unknown science.

It is rather hard to question, that someone who is thinking independently (formal education is not the binding criterion) can doubt in assumption, that taking care of life quality is determining most of our actions in relation to ourselves, others, environment and technology. For many people, this objective truth is intuitive however, they may be not able to verbalise it and derive from this assumption the most important applications. One of the main tasks of science (or more precisely: scientists) is forming the most important assumptions and questions. Afterwards obtained knowledge (hypothesis) about scientific discoveries and its necessary applications should be presented most understandably. The main reasons for lacking in reliable coordination of scientific accomplishments are unsustainable development of science, limited access to scientific accomplishments, language and organisation barriers or animosities between scientists. The real ones are Alfred N. Whitehead's (1861-1947) doubts from 90 years ago [1], regarding the effectiveness of coordinating beneficial actions for society, under the influence of science. It still fail to achieve consensus about the hierarchy of the most important scientific applications created for the benefit of humankind.

Here is an example of formulating an assumption on a high level of generality, which connects quality of life on the micro scale (every individual) with the macro scale (*en block*) and should be understandable by teenagers: universal measure of life quality is optimal level of

all health aspects (somatic, mental, social) and survival ability. There is positive answer for the elementary question: whether this phenomenon can be measured on a micro scale [2-4]. Estimation of these indicators from medium to macro scale is far more complicated.

There is no possible to tell every potential threat to human health or life. Even harder is to think of preventing every situation of temporary or permanent health loss, and in extreme cases, living in suffering for a long time. Sudden loss of life is a separate set of occurrences. Describing counteraction of every category mentioned above and also set of interpersonal relations, when two sides have discordant aims, we use a term "struggle" or its synonyms (combat, contest, grapple, fight, wrestle, etc.): fight against tuberculosis", „fight with fire”, „fight against poverty”, „class struggle”, „struggle for freedom”, „fight against terrorism”, „fight for Olympic championship”, „fight against doping in sport” etc. Jarosław Rudniański (1922-2008) noticed that a man uses the most often the word "a struggle" (and synonymic terms) when "(...) a given action is distinguishable by a high level of difficulty and psychic suspense" [5].

Agonology (science about struggle) is applied to empirical science. There are two main reasons why this science is generally unknown. Firstly, five detailed theories of agonology (from 1938 to 2000) were published in Polish by four Polish scientists [5-9]. Secondly, this term is multi-faceted, and it is impossible to explain its complexity in one sentence. Moreover, historical background and disrupting in the promulgation of this knowledge by different business and political subjects was making it hard to introduce to wide public. Groups of interest, gaining benefits from the trafficking of violence and aggression are constantly increasing in power. For them, agonology is very inconvenient [10-12].

Each author of agonology theories had individual and separate ways of scientific development and personal experiences. What they had in common, was a passion for obtaining knowledge about some aspect of the struggle. A direct way of passing this knowledge is a guarantee of its coherence, as the next author was always a student of the previous one. Therefore there is a historical, logical and pragmatic basis for approving agonology as a separately applied science in relation to the different aspect of social and material reality (since, e.g. „we are fighting with fire”, „...with disease” – with the external or internal enemy). Prophylactic and therapeutic agonology (alias: *innovative agonology*) is the newest applied science about the struggle in the widest possible meaning of countering destructive phenomena for every health aspect and surviving.

The aim of this paper is theoretical argumentation based on and results of randomised empirical studies and unique study case, which should make specialist of different branches of sciences aware that language, methodology, rules, directives, some methods and means of *innovative agonology* could help solve many health and surviving problems by an interdisciplinary approach.

MATERIAL AND METHODS

Review of the scientific literature dedicated to phenomena: struggles in the context of the creation of agonology by Polish scholars: aggression; aggressiveness; placebo effect in the context of reducing human aggressiveness.

Special courses with workshops – methods of direct observation of the phenomenon of aggression and indirect observation of the phenomenon of aggressiveness

Participants

Six 13-year-old students (one female) of school for juveniles with intellectual disability selected by head directed of this school (where one of the workshops in 2015 was conducted). Students were selected by him among group present on a hallway during a break between lessons. He agreed with our suggestion, and indicate one with increased aggressiveness.

Reference group: 1694 specialist of sports activity organisers for the youth (participants in 2014 and 2015, organised in every of 16 districts in Poland at least one two-day special courses [13]).

Scenario

Every course started with an anonymous questionnaire [13], which after first workshops session of basics of the fun form of martial arts (specific games) [14, 15]. Participants were informed that these types of games are an attractive warm-up proposal before physical education, sports training, recreational exercises, etc. and also as an element to diversify tedious cyclic exercises. The real goal of fun forms of martial arts was known only to the organisers. Apart from 6 assistants, selected from participants, no one was familiar with real diagnostic values of those game. Group of 6 participants was selected randomly among volunteers, with minimum one female. The scenario was conducted by the following algorithm (following stages with comments):

1) “please, indicate the main similarities and differences between the marketplace and supermarket” (cognitive aspects) – none of the participants came up with the conclusion, that on marketplace there is freedom, when buyer directly pays to the seller, while in supermarket freedom ends in checkout line;

2) setting area of “modern marketplace” (with use of lines on sport gym or area restricted by mattress etc.) and invitation for the game with prices – every participant receives different martial arts belt (e.g. judo, taekwondo etc.) and code number from 1 to 6 (code number gives animosity for a period of time, until participant learned about the connection between exact person and their number, but the colour of the belt gives immediate identification of a person);

3) initial criteria of the game (accumulation of cognitive and behavioural factors): back of every participant are recognised as “credit card reader”, while the belt is a “credit card”. In a moment of calling for exact colour of the belt (changeable with code number), the participant has right to start “buying” by touching back of others with his belt (word tough should be emphasised along with the visual presentation of correctness). Each tough presents one transaction. Action last until the director calls another colour (code), so for 3-5 seconds. Director of a game repeats rules until everyone confirms that they understand (when someone demands additional explanation besides standard one, the director used formula “do as you understands it”);

4) by using a legend story, for example, agent 007, director highlighted that collision with another person on a modern marketplace is shameful, as you could be robbed (enhancing behavioural factor alongside with anticipation of consequences – which is cognitive aspect – in real life situation it could bring real loss.

5) sanctions: breaking any of rules will result in temporary (several seconds) or permanent exclusion from “shopping” (lowering chance for the price – cognitive factor). Exclusion is the arbitrary decision of the director of the game (for hitting, targeting another person’s head, intentional collision, leaving restricted area, verbal aggression or holding the belt in improper manner etc.). However, the director of the game did not reveal actions, that commitment results in unavoidable exclusion. Provoked, he use formula – “listen and observe, you still have chances for reward” or repeat standard rules (Figures 1-3);

6) showing the way of folding and holding a belt (four parts, held by its end, where belt’s ends meet).

Instructions of each assistant (each of them were observing one participant), involves documenting using specific symbols: amount of calls of “buyer”: (it is possible that during a period of 3-5 seconds there will be no interaction with others), amount of touches of back of others (which meets game rules), touching other parts of the body beside backs (which is foul according to game rules), hitting instead of toughing (aggressive behavior), hitting other parts of body besides backs or other aggressive behaviors (hitting with anger, verbal aggression etc.) [13].

Assistant, based on obtained data counts many incidents (proper and improper according to rules) separately for each of 2 minutes of game application. Next stage involves separation of proper action from fouls, aggressive behaviours. Based on that date he estimates individual indicators about every diagnostic-therapeutic game and for sum of the games: controlling own actions, revealed aggressiveness or intensification of aggressiveness [13].

This first from diagnostic-therapeutic fun forms of martial arts (“modern marketplace”) was conducted in three versions, two minutes each, by calling “buyer” by belt colour, code number or a mix of those two.

Simulation method

In anonymous simulation tests 516 adults the animators of youth sports (110 females and 406 males applied the KS-4M projective test [16] – during every workshop sessions in 2015 [17]. In response to visual stimuli (pictures presenting the various behaviours in a micro- or macro scale), the subject indicates that particular character or projection of solving given situation, that is closest to own disposition of a particular functioning (attacking others, physically counterattack, counteract verbally, total indifference or an extreme fascination of aggression etc). The analysis included two pictures (1 and 4) among the



Fig. 1



Fig. 2

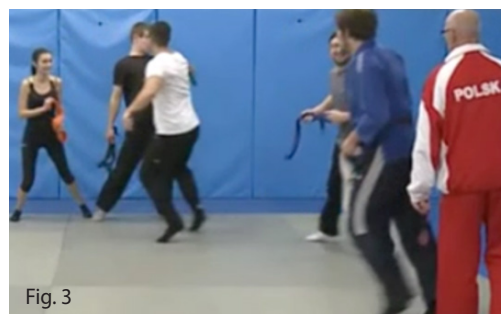


Fig. 3

Figures 1-3. A fun form of martial arts – „modern market place”.

four simulated the situation of physical aggression at three levels of operation: a micro scale (pictures 1 and 4); medium scale (picture 3); macro scale (picture 4).

Adequate simulation the KS-4M projective test provide theoretical terms (for example: “verbal aggression”, “physical counterattack”, “reading a newspaper when a victim requires help”) which allow us to identify three categories of phenomena – aggressiveness, bravery, inaction [16].

RESULTS

Theoretical argumentation (four phenomena)

Struggle

Tadeusz Kotarbiński (1886-1981) in the widest comprehension defines “a struggle” as any activity, in which at least two subjects participate (assuming that a team can be a subject) whereas at least one of subjects hinders the other one [6]. Interchangeably “a struggle” was called “negative co-operation”.

The struggle issue was very inspiring for Kotarbiński while he was forming a basis of praxeology [18]. He was aware that a man develops the biggest amount of energy and smartness when he or she finds in constrained situations. Just in the course of a struggle, an adversary makes all his efforts to obstruct an action of the other side. In numerous kinds of struggles, there are plenty of such situations. As the most curious case of a struggle however he shows a situation when both subjects not only tend objectively to the discordant aims but also are conscious of that and count in building their plans of action activities of the opposite side, too. This kind struggles take place in the sport, in political debates, business competition, partly in education, etc. These struggles qualify to “an intermediate level” of the stage of generalisation. It places a military struggle (an armed one) on “the basement”, notwithstanding on the “highest level” a general theory of the deed (praxeology) [6, 18].

From today’s perspective of agonology’s development, it is not surprising that in 1955, Kotarbiński includes the theory of struggle to the praxeology (science about good work) [18]. Kotarbiński was creating the basis of agonology in two social realities. Firstly (in 1938), right before the beginning of the Second World War. He comes back

to this set of problems in 1957 [19] and 1963 year [20]. From 13th August 1961, building a Berlin Wall had begun. Kotarbiński died before 9th November 1989 (destruction of the Berlin Wall) and could not foresee dynamic of agonology’s development, nor application range of science about struggle after 1989.

Accordingly with common practice, every scientific innovation (both theoretical and practical) is at first interesting for the military specialists. The same happens with agonology. Józef Konieczny (1936-1984), philosopher, engineer, military officer published in 1970 a cybernetic theory of struggle, which was in fact theory of destruction [21]. Konieczny highlighted that purposive destructing also takes place in activity which is not an armed struggle [21]. For example necessary amputations.

The general theory of struggle was developed by Jarosław Rudniański, student and co-worker of Tadeusz Kotarbiński. The difference between them lies not only in age difference (Rudniański was 35 years younger) but also experience in a struggle on “the basement” level. Rudniański was first a prisoner of Soviet gulag during the Second World War. Afterwards, the soldier of general Anders Army participated in the Battle of Monte Cassino (1944) on the side of the Allied forces. His inspirations came from papers of Mahatma Gandhi (1869-1949). Directly after the end of Second World War, he studied Hinduism and Buddhism at the University of Rome. However, Rudniański, when developing a general theory of struggle, referred above all to Kotarbiński language (a basic conceptual apparatus of agonology). Rudniański is an essential work: *A Compromise and a Struggle* [5] was written in “two stages”. The general theory of struggle was published in 1983 during the Martial Law in Poland under the title *Elements of Praxeological Theory of Struggle. Problems of a Negative Co-operation* [22]. Contents of these elements and problems were precise allegations of the theory of a non-armed struggle.

Rudniański did not redefine a term “a struggle”, he formulates **general rule of a struggle** – “(...) at an action in which a material or surrounding all the action’s time is in independent motion from an acting one, creating simultaneously strong and various resistance; act this way to be able at any moment possibly change both a plan of action and its manner” [5].

This is a breakthrough moment in the development of agonology. “Material” means the opponent (subject or thing) with which the person (individually or within a group) fights. Thus the in Rudniański opinion “struggle” is forming mutations by bacteria or viruses to adjust to vaccinations and antibiotics as an extreme case of counteraction. That namely the living organisms do not have human consciousness has no crucial meaning for the way of action by these which fight back them [5].

The destructive power of mutated bacteria and viruses, which are not self-aware, is manifested in both casualties of different epidemics and time required for creating effective countermeasures. However not every danger for human life and health can be prevented by surgical or pharmacological interventions, nor by most world-shaking findings of genetics. *Innovative agonology* fulfils that gap and open wide perspective of increased effectiveness of prophylactic, treatment and therapy in some classes of illnesses and a whole system of prophylactic and therapy for public health form medium to macro scale.

Roman M. Kalina was published in 1991 the theory of defensive struggle along with the theoretical basis for cognitive-behavioural prophylactics and aggressiveness therapy [8]. Nine years later, he publishes the empirical theory of combat sports [9]. Both theories have initiated a cycle of research on the phenomenon of combat dynamics (one against one according to sports standards [9, 23-26]) as well as simulation studies (motor [16, 27-30] and non-motoric simulation [16, 17, 31, 32] on non-sport confrontation).

Aggression

Aggression is examples of actions, which sometimes, in certain circumstances man cannot do anything about it. The verbal attack, physical one or both of them simultaneously for another man could be a consequence of inner impulse, which someone will not be able to control (extreme pathology are psychosis or serial killers). On the other hand, aggression is the conscious actions of men, such as instrumental aggression (robbery attack). Directed by general ethical standards, aggression cannot be justified on a pathological level, nor by instrumental aggression and violence (learned/acquired).

Aggressiveness – global problems of public health and the possibility of overcoming them by methods of innovative agonology

There are no definitive scientific evidence that people with increased aggressiveness are more prone to adapting aggressive behaviours (learning of instrumental aggression and violence). We are disregarding from Macdonald triad here [33].

Innovative agonology offer diagnosis method of increased aggressiveness as wells as methods to reduce this phenomenon (trait). The aim of necessary prophylactic and therapeutic interventions is personal motor safety and self-control (verbal and motoric actions) – honourable self-defence [27]. The far-reaching effect would be improved quality of life measure by somatic-, mental-, social health and survival ability indicators [4, 29].

Monitoring (basing of this methodological model) epidemiology of years lost to premature death as a consequence of aggression is impossible because of many factors. However, daily mass media news is sufficient to come up with the elementary conclusion, that psychological theory of katharsis [34, 35] is counterproductive. Instead of its purpose (reduction of aggressiveness, violence and aggression), we achieved negation on the global scale. A dazzling society with horrors, thrillers, mix martial arts (neo gladiator) etc. correlates with education towards violence and aggression which are resulting in robberies, banditry, rapes and escalation of terrorism in many countries [36].

The perspective of diagnosis and therapy of aggressiveness by using fun forms of martial arts

A fun form of martial arts is a unique tool for both diagnosis and reduction of increased aggressiveness [14, 15]. The open formula of the fun form of martial arts widens a spectrum of possibilities in creating new ways of diagnosing, prophylactic and therapy, which includes dangers for somatic, mental and social health. In a certain manner, it could be even used as part of the integrated treatment of some mental illness. Apart from those visions and perspectives, reduction of aggressiveness could be recognised as an objective indicator of improving mental and social aspects of life.

Every combat sport and almost all martial arts are mainly restricted by motor barriers (without excluding evidence-based medicine proved

systems like *tai chi* and *qigong* etc.) Moreover, combat sports are limited by time of physical effort, rules, and competition categories involving gender and weight categories etc. For the specialist, who use fun forms of martial arts, the only restriction lies in ethical standards, motor and mental safety of patients, as well as emotional comfort of participants (patients).

Effect placebo in interdisciplinary interpretation – in the mental and motoric sense

Moreover, our newest experiences in kinesiotherapy based on diagnosing and reducing aggressiveness by using fun forms of martial arts [14-16] leads us for the proposition of new interpretation of placebo phenomena in wider, interdisciplinary perspective.

Placebo is defined in free, popular science approach as usage of thing (like drugs) or actions (like fake surgery), or both things and actions, which should trigger inner biochemical reactions for achieving healing or therapeutic effect. Commonly it is used in clinical trials, to make sure that certain therapeutic effects are results of usage of newly designed substance, and not self-healing (or none) response to placebo.

For over last 60 years, the term placebo was changing its meaning. Firstly it was defined as an agent by Pepper [37], then as therapeutic procedure and “therapy or component of therapy” after Shapiro revised his statement [38, 39]. Brody states that it is an intervention that simulates therapy [40]. Kirsch proposed that placebo is “physical substance” [41], then another proposal is medicine as defined in *Oxford Concise Medical Dictionary* [42]. Both in *Concise OED* [43] and *Stewart-Williams with Podd* defines it as substance or procedure [44]. Finally, it is recognised as a drug or medicine in *OED* [45] or substances and interventions by *Colloca and Miller* [46]. A most general definition was proposed by *Raagopal* – interventions that are pharmacological or procedural [47].

What makes placebo effects interesting, that simply believing in the healing effect of the intervention can cause improvement in patient condition [48]. Specific motor effects were observed in the case of patients with Parkinson disease, where given a placebo, they started walking as with given drugs. This mechanism is explained that simply taking a pill triggers

dopamine as a “reward” centre, which shortage in the brain caused them to be ill [49]. This motor effects triggered by creating some imaginary situation is proof, that placebo-based interventions can cause improvement in motor functioning, even temporary.

Empirical argumentation Results investigations of the sports activity organisers for the youth

During every training workshop (in 2014 and 2015) at least two among 6 participants (33%) for every applied game were excluded in a first minute (empirical proof of revealed aggressiveness). Aggressiveness revealed 32% females and 35% males among courses participants [17].

Results investigations of the juveniles with intellectual disability and increased aggressiveness

At the first stage, explanation of game director about true freedom of marketplace supposed to triggers reflection (each day students experience, closed doors restrict certain areas). With nodding of their head, they confirm, that they understand arrangements of stage 2, 3 and 4. After the beginning of the game, all started running vigorously, one after another in the indicated area of “market place”. However, a girl crossed the borders (first exclusion for 10 seconds – stage 5). After resuming, they began circling one after another again. After “yellow” was called (first “buyer”), a student with this belt stopped and hit with full strength the back of another, so he repays him with the same (both were excluded – stage 5). Someone asked if they cannot hit someone. Director told them rules of the game again and let a girl participate. After that, she left the restricted area again and was excluded. Remaining three participants competed according to the rules and made excluded one very curious. Director ensures, if excluded ones understand rules, and let them play again. After the first 90 seconds of the game, assistants inform about results of a game (shopping). During the second game (calling for belt colour) there was no reason to exclude anybody. The girl remains in the restricted area, and some touches were on a border with hitting criteria. Participant started to observe other “buyers” and defend themselves from touching their backs. After that, there was a short break and a summary of the results. Then the criteria were changed for calling for the code number. During this third repetition of game, motor behaviour, their perception, concentration on task and respecting the rules was proof of dynamic of their adaptation. Relaxed, content

students confirm their willingness for participation in such kind of games. The girl received a special reward (chocolate) as only female participant and brave attitude while competing with boys. She had second place in the classification. Most surprised about cognitive-behavioural therapeutic effects was a school director. He stated that one aggressive student despite two exclusions achieved second place in the effectiveness of “buying”.

Is following interpretation justified as the placebo effect, where it is a clear sham, that belt is perceived as “credit card” and human back of participants as “credit card readers”, and changing on their own will from hitting to toughing in-game as real correction of motor behaviours (in fact, inner transformation)?

DISCUSSION

Expert of prophylactic and therapy of agonology (agonologist) is a real perspective of a new profession. Tools (in a wide meaning of this word) of prophylactic and therapeutic agonology is precise language, original methodology, as well as motor test in laboratory conditions, motor simulations in prophylactic-therapeutic practice, fun forms of martial arts (unique means of prophylactic and cognitive-behavioural therapy, from many, are handy non-tests), test based on verbal simulations and projective tests and developed martial arts bibliotherapy [50, 51]. Because the term „martial arts” is increasingly associated with neo gladiatorship, the authors of this publication propose to replace the term „ martial arts bibliotherapy” with the name „agonology bibliotherapy”.

“Placebo” in an agonology language is a special case of “bluff”. Described in this paper placebo effects in proposed interdisciplinary interpretation (in a mental and motor sense) is in agonology language known as master techniques (masterful trick). We did not impose this interpretation, nor we state, that

overcoming of established paradigms and semantic standards generally accepted by the scientific environment could be seen as overuse with ever-changing science. Contrary, we see a chance in effective application of theoretical achievements of sciences (in interdisciplinary approach). One of the most up-to-date meta-analysis is proof, that sport promoted as a way of reduction of aggressiveness is limited in the same manner as possibilities of pharmacological therapy [52, 53]. In extreme cases, both sport and pharmacology could be counterproductive.

Possibilities of *innovative agonology* – as we state – is not limited by application for prophylactic and cognitive-behavioural therapy. Agonology, today seems as deeply esoteric science [10, 12], could inspire specialist of other scientific disciplines to complementary usage in many stages of treatment. Especially rules, directives, and specific method of science about struggle. The language of the methodology of agonology is suitable for connotation on the border of different science sub-disciplines.

CONCLUSIONS

Capable specialist of cognitive-behavioural therapy based on *innovative agonology* can achieve surprising placebo effects. Authors obtained such results during two categories of practical consequences: diagnosing and reducing the aggressiveness of people regardless of age, gender or intellectual disability. Unique means are fun forms of martial arts. Recommendation concerns include pharmacological restriction of supporting of aggressiveness therapy as well as solving complex ethical issues.

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