

THE MENTAL SKILLS TRAINING IN COMBAT SPORTS

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Abstract. The importance of psychological factors for athletic performance is obvious from the common sense point of view. It was been scientifically proved too. The competition involves an intensely stressful mental state at athletes level that decrease sport performance if it's not properly managed. Combat sports matches involve a very high stress because the injury is not only a risk with a high probability, but can even be a vehicle against adversary to achieve the victory. Mental skills training is the training method for the competitive states management, whose effectiveness is supported by research findings including in combat sports. The present study aims to provide a concise, clear and comprehensive overview on it and related issues, trying to capture specific elements related to combat sports.

Keywords: mental skills, mental skills training, combat sports

Rezumat. *Optimizarea factorilor psihologici prin intermediul antrenamentului deprinderilor mentale în sporturile de luptă.* Importanța factorului psihologic pentru performanța sportivă este evidentă din punctul de vedere al simțului comun. Aceasta a fost demonstrată și în mod științific. Competiția presupune o stare psihică intens stresantă la nivelul sportivilor care afectează performanța sportivă dacă nu este gestionată corespunzător. Meciurile din sporturile de luptă implică un stres deosebit datorită faptului că rănirea nu este doar un risc cu o probabilitate crescută, ci poate fi chiar un mijloc folosit împotriva adversarului pentru obținerea victoriei. Antrenamentul deprinderilor mentale este instrumentul pentru gestiunea stărilor psihologice competiționale, a cărui eficiență este susținută prin rezultate ale cercetării inclusiv în domeniul sporturilor de luptă. Studiul prezent își propune să ofere o imagine de ansamblu concisă, clară și cuprinzătoare asupra acestuia și aspectelor conexe, încercând să surprindă elementele specifice sporturilor de luptă.

Cuvinte cheie: deprinderi mentale, antrenamentul deprinderilor mentale, sporturi de luptă

Introduction

Competition is 10% physical and 90% mental. This idea can be found in various forms in many sports, including the combat ones. Percentages cannot be estimated precisely, but obviously psychological factors are important for the success in competition, especially in the case of elite athletes who are similar in terms of competitive experience, physical, technical and tactical level. The sport psychology contribution to improve the athletes performance is based on two fundamental principles: the mind can control the body and the mind must be controlled or trained in order not to have an adverse effect on the body (Locke, 2008).

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Systematic mental training is used for athletes at all performance levels and especially for top athletes, who participate in the Olympics or professional. Top athletes who exhibit higher levels of psychological attributes relevant to the sports performance usually tend to use mental strategies in practice and competitions (Ryska, 1998).

If athletes are interested in obtaining the best sportive results, they should not assume that competition success is a result of an isolated factors combination that come together mysterious in competition day. Psychological training aims to support the full exploitation of the sport potential (physical, technical, tactical). Therefore, athletes should include mental skills training in the workout schedule. It not only helps achieving sports results, but form life skills that support everyday life problems solving.

Mental toughness

The final result of mental skills training is mental toughness, which is based on specific mental skills that must be formed, maintained and improved. Mental toughness, one of the most widely used terms in everyday sporting discourse, is widely regarded in empirical studies conducted as the key to sporting success (Moran, 2012). Gould et al. (1987) conducted a study in which 82% of coaches rated mental toughness as the most important psychological characteristic in determining success in wrestling.

About mental toughness there are a number of misconceptions encountered at the level of the people involved in sport life, such as: you must dislike opponent, you must compete as a machine, you must not express emotions, you must not be nervous, you should be born mentally tough. Actually, “mentally strong athletes are persons mentally disciplined who respond to pressures in ways that allow them to continue to be relaxed, calm and energized because they have the ability to increase the flow of positive energy in crisis and hostility situations, also having the right attitude about problems, pressures, errors and competition” (Loehr, 1986). The attributes used in the measurement of mental toughness through Psychological Performance Inventory by Loehr (1986), actually mental skills, are the following: self-confidence, negative energy control, attention control, visualization and mental imagery control, motivation, positive energy and attitude control.

Middleton et al. (2004) define mental toughness as “an unshakeable perseverance and conviction towards some goal despite pressure or adversity”. Attaining mental toughness requires the presence of some or all of the twelve mental toughness components, divided into two categories:

- factors that orient an individual to be mentally tough: self-efficacy (“the athlete’s judgment or belief in his or her own ability to succeed in reaching a specific goal”), mental self-concept (“viewing one’s self as being mentally strong in relation to dealing with adversity”), potential (“believing that you have the inherent ability or capacity for growth, development or coming into being”), task familiarity (“having a good understanding and being well acquainted with the task or adversity”), personal bests (“an internal motivation or drive to pursue personal best performances”), task value (“the quality of importance or the significance the successful completion of the task holds for the individual”), goal commitment (“the act of binding oneself intellectually and emotionally to a goal or a course of action”).

- the actions of mental toughness: task specific attention (“the unshakeable concentration of mental processes on a task whilst excluding other distractions from concentration”), perseverance (“persisting in or remaining constant to a purpose, idea, or task in the face of obstacles, discouragement or adversity”), positivity (“the process of being positive and remaining positive in the face of adversity or challenge”), stress minimization (“the process of reducing one’s emotional reaction to adversity”), and positive comparisons (“sensing that you’re coping better with adversity and thus have a psychological and competitive advantage over your opponent”) (idem).

Jones et al. (2007) developed a conceptual framework of mental toughness which has high practical value because it can help to explain how and under what conditions these can be formed, maintained and optimized. It includes the following dimensions and components: attitude/mindset (belief, focus), training (using long term goals as a source of motivation, controlling the environment, pushing yourself to the limit), competition (belief, staying focused, awareness and control of thoughts and feelings, controlling the environment), post-competition (handling failure or success). According to the same authors, the division of mental toughness into specific dimensions and further into components allow the profiles creation within which the perceived individual strengths and weaknesses of the athlete can be identified.

In a study conducted by Connaughton et al (2010) are identified the following factors that influence the mental toughness development and maintenance: skill mastery, competitiveness, successes, international competitive experience, education and advice, the use of psychological skills, access to an understanding social support network, and reflective practice.

Some people have an innate predisposition to have a greater mental toughness. In the absence of such a predisposition, it can be formed and developed through exposure to the

environment or mental skills training influences (Weinberg, 2013). Even innate predisposition can be developed through exposure to these influences. Weinberg (2013) argues that mental toughness training by means of exposure to environmental influences is often the result of the coach activity. Among the influence factors from environment previous author list: a tough practice environment (e.g., intense competition training, harsh physical training), a positive mental environment (e.g., an atmosphere that supports confidence/positive, the existence of high expectations) and opportunities for awareness/learning (e.g., observing other people mentally tough). Also, mental skills training have an important role in the mental toughness formation, maintenance and optimization. The mental skills training programs could be implemented to counteract any identified weaknesses and to further enhance any strengths in the appropriate dimensions of the mental toughness (Jones et al., 2007). Elite athletes reported the successful use of mental skills training to support the development and maintaining of mental toughness (Weinberg, 2013).

When implementing strategies for developing mental toughness, both the knowledge of environmental influences and those relating to mental skills training can be combined to achieve efficiency (idem).

Competition optimum state

Specialized research identified an ideal mental state for competing typically associated with peak performance. This is an optimal or heightened consciousness state, within modified consciousness states, that was captured through a series of relatively similar concepts in sport psychology: zone, flow state, ideal performance state and peak experience.

Loehr (1986) identified 12 categories that reflect the ideal mental state for peak performance: physically relaxed, mentally calm, low anxiety, energy, optimism, enjoyment, effortless, automatic, alert, mental focus, self-confident and in control.

Csikszentmihalyi (1990) proposed the concept of flow, considered by many specialists as representing the optimal mental state for sport performance. It is defined as a psychological state in which people are so involved in an activity so that nothing else seems to matter for them. The usage of the term zone, frequently used in sporting discourse related to exceptional performances, is related to Hanin's theory of the zone of optimal functioning, which state that, for each athlete, performance would reach an optimal state when anxiety levels remained within a specific zone (Locke, 2008).

In addition to psychological state necessary to obtain peak performance, the athlete must have an appropriate physiological state, which is directly associated with optimal psychological state. Arousal refers to the physical level of activation of the person and the intensity of his behavior, frequently confused with anxiety which has physiological manifestations of increased arousal (Balague, 2005). The inverted U hypothesis states that there is an optimal level of arousal for sports performance and if arousal level is higher or lower compared to that, sport performance will be reduced. Optimal arousal level for achieving athletic performance is specific to each individual, depending on his personality and stress coping style.

Mastering basic skills of the sport and physical preparation are prerequisites for developing optimal state for competition. Also, this state is facilitated by mental habits such as avoiding negative thinking, good emotional control, relaxation, suitable arousal levels, goal setting, mental imagery and positive self talk (Jackson et al., 2001). Jackson's (1995, as cited in Locke, 2008) study with elite athletes identified the factors that influenced (being motivated, achieving optimal arousal and being focused) and harmed (e.g., negative interactions with team mates and poor environmental conditions) the flow state. Therefore, one of the main goals of mental skills training is regularly getting the optimal mental state in the moment of sport competition.

Defining elements of mental skills training

Mental skills are internal capabilities to effectively and consistently self-control the psychological factors that support the improving of individual performance. For their formation and training are used techniques, procedures and drills.

Four basic mental skills, more exactly mental skills techniques, are generally recognized in sports psychology: mental imagery, relaxation, positive self talk and goal setting (McDaniel et al., 2009). Several mental skills (and techniques) associated with peak athletic performance have been identified, such as holding competition routines and well designed plans, high levels of motivation and commitment, adaptive skills to cope with distractive factors and unexpected events, increased attention focus, high self-confidence levels, the arousal level self-regulation, goal setting and visualization (Williams & Krane, 2001).

Mental skills techniques are used for mental skills training, but some of them also may be ways of expressing them, such as breathing and positive self-talk techniques. The

complexity level of techniques varies from simple (e.g., cue words) to very complex (e.g., stress inoculation training).

As in many specialty papers there are confusions between mental skills and mental skills techniques, we propose forwards a classification and definition of principal mental skills useful including for combat sports and we mention mental skills techniques associated for every. It is inspired by classifications of several authors (e.g., Bacon, 2001; Zaichkowsky, 2007) to which we added relevant skills and training techniques.

Table 1.

Classification of principal mental skills and correspondent training techniques

Basic mental skills	Mental skills techniques
<p><i>Thoughts control</i></p> <p>The ability to stay positive and to eliminate any negative thoughts or emotions</p>	<p>positive thinking, positive affirmations, thought stopping, changing self talk from negative to positive, confronting negative thoughts, reframing, rational emotive therapy, stress inoculation training, cue words, pre-competition routines, competition mental plan, competition adaptation plan</p>
<p><i>Arousal control</i></p> <p>The ability to increase/ decrease the degree of arousal to an optimal level</p>	<p>Arousal drop techniques (cognitive techniques, centering, progressive relaxation, mindfulness, autogenic training, meditation, breath control, biofeedback, pre-competition routines, competition mental plan, competition adaptation plan)</p> <p>Arousal increase techniques (music, energizing cue words, rapid muscle tension and relaxation, exercise, rapid deep breathing, energizing scenes visualization)</p>
<p><i>Attention control</i></p> <p>Ability to concentrate on appropriate issues, while irrelevant distraction factors are</p>	<p>centering, meditation, concentration, mindfulness, attention control training, competition mental plan, competition adaptation plan</p>

stopped	
<p><i>Motivation</i></p> <p>The ability to persevere in making the effort necessary to do difficult sport activities, even if the rewards are not available in the immediate future, the presence of intrinsic motivation</p>	<p>goal setting, goals visualization, sports lectures reading, instructional videos watching, documentaries about elite athletes watching</p>
<p><i>Self Confidence</i></p> <p>Athlete's ability to form realistic expectations about success</p>	<p>positive thinking, positive affirmations, thought stopping, changing self talk from negative to positive, confronting negative thoughts, reframing, modeling, mental imagery, mental rehearsal, mental training, visual motor behavior rehearsal, self-hypnosis, pre-competition routines, competition mental plan, competition adaptation plan</p>
<p><i>Competition mental skills</i></p> <p>Ability to use immediately before and during the competition of thoughts, actions, images and emotions necessary for the athlete to perform at his full potential</p>	<p>simulation, pre-competition routines, competition mental plan, competition adaptation plan</p>
<p><i>Managing psychological injuries</i></p> <p>Managing psychological factors that play a significant role in exposing athletes at risk of injury and in recovery</p>	<p>centering, progressive relaxation, autogenic training, meditation, mindfulness, breath control, biofeedback, positive thinking, positive affirmations, thought stopping, changing self talk from negative to positive, combating negative thoughts, reframing, mental imagery, self-hypnosis, goal setting</p>

As can be seen in the table the same techniques can be used in many mental skills areas.

Encouragement, care and education provided by the athlete coach are very important. An example of mental skills training technique commonly used by coaches are pep talks addressed to athletes immediately before or during competition to instill enthusiasm and for moral support.

Mental skills training represent the systematic and consistent practice of mental skills to improve performance, to increase the enjoyment or to obtain a higher satisfaction from the sport activity (Weinberg & Gould, 2011). The ultimate goal of mental skills training is self-regulation, which is the ability of a person to work for achieving short and long term goals through monitoring and effective management of his thoughts, emotions or behaviors (idem). The individual's ability to control mental and emotional processes support task performance, creates psychological foundation for self-confidence and personal wellbeing (Boyd & Zenong, 1999) and increase his motivation to continue doing efforts for trying to improve his sport performance (Wulf & Toole, 1999).

The benefits of mental skills training have been argued by many authors. For example, Beauchamp et al. (2012) affirm that the effectiveness of psychological skills training on performance has been suggested in previous sport psychology reviews (e.g., Gould & Eklund, 2007; Hardy, Jones & Gould, 1996; Landers, 1995; Vealey, 1988, 2007; Weinberg & Comar, 1994).

Principles of mental skills training

The fundamental principle of mental skills training is its approach in the same way as physical skills. From this principle comes the need for mental skills regular practice. Learning the mental skills requires perseverance, involvement and confidence in their ability to improve sport performance. Proper teaching of mental skills is another essential element for their achievement.

Mental skills training specialization principle ensures the validity and effectiveness of the programs and techniques used for mental skills training.

Very important are the principles from the mind-body relationship area. According to the ideomotor principle mental imagery helps learning motor skills because when a person imagines that practice a movement, electrical impulses transmitted by the nervous system stimulates his muscles in a manner similar to the situation in which it is physically executed. Relaxation principle states that a person cannot be relaxed and tense at the same time. It can be triggered by a number of mental skills techniques such as progressive relaxation or

breathing. Using such techniques will also have the secondary result of getting mental relaxation state.

Principle of inner thoughts influence on performance underlies mental skills cognitive techniques. The change of inner thoughts can influence behavioral change and thus improve athletic performance.

According to the individualization principle mental skills techniques must be selected, designed and used customized, depending on personality and individual needs, the situations, the team and the specific sport. Some specialists consider that the most appropriate would be an individualized mental training program that involves learning a wide range of mental skills, from which the athletes will select the ones he will include in his mental training plan based on effectiveness observed in his practice.

The principle of individual responsibility requires that the athletes to be effectively committed in the mental training, so it is not randomly done or left to others (e.g., coaches, psychologists, parents).

Principle of practicing mental skills in situations similar to those in competitions involve the use of mental skills training techniques in contexts similar to those encountered in competitions, characterized by a high stress and high demand of physical qualities.

The principle of adapting mental skills teaching methods and techniques to the characteristics of specific sport advise that the mental training to be taught by people who know well sport life in general, demands and mental experiences encountered in critical training phases (practice, competition and transition) and the key characteristics of the specific sport in which the mental training is realized. Such knowledge is best achieved through the sport personal practicing at competitive level.

The principle of creating an active learning environment sustain that the best way to implement effective mental training programs is ensuring facilitating environmental conditions, such as: self-direction, relevance, adaptation, reflexivity, socialization (Farres, 2000).

Taking into account the principles set out above, mental skills training programs were most likely to be characterized by efficiency.

Mental skills training programs

Disparate using of mental skills techniques will not lead to peak performance in competitions. The integration of these skills in mental skills training programs and further

within physical training is very important from a practical point of view because “it may help ensure quality practice and facilitate the effective transfer of mental skills into competition” (Davenport, 2006). An effective interaction among physical, technical, tactical, and psychological preparations should exist within each of the critical phases of the training program (preparatory, competition, and transition) to achieve a high level of proficiency (Blumenstein et al, 2005). Any psychological intervention introduced to elite athletes during their training should reflect the aims of each critical phase of the program (idem).

Bacon (2001) believes that the mental skills training planning must take into account following key points:

1. Annual training organizing based on the periodisation principles.
2. Teaching first basic mental skills, then developing and practicing sport specific versions of these skills, and finally, developing a plan for each athlete to use these skills in the competition.
3. Mental training individualization, the introduction of different skills and related techniques and empowering the athlete to decide which are effective in his case.
4. Integrating mental training into regular sports training.

The mental training objectives of the each annually sport training program phases, proposed by Bacon (2001), are:

Table 2.
Mental training objectives of annually training program phases

<i>Phase</i>	<i>Objectives of mental training</i>
General	<ol style="list-style-type: none"> 1. Assessment of the mental skills 2. Learning the skills in a quiet setting
Particular	<ol style="list-style-type: none"> 1. Adaptation and practicing the mental skills in specific sport training situations 2. Using of the mental skills to help achieve the objectives of sports training 3. Maintaining the basic mental skills
Precompetitive	<ol style="list-style-type: none"> 1. Designing and practicing of the mental plans 2. Using the mental plan in simulations 3. Maintaining the basic mental skills

Competitive	<ol style="list-style-type: none"> 1. Evaluating and refining of the mental plan 2. Using the mental skills for training in rapport with specific adversary or competitions 3. Using mental skills for stress management
Unloading – after competition	<ol style="list-style-type: none"> 1. Using mental skills to support recovery and relieve stress
Transition	<ol style="list-style-type: none"> 1. Performing recreational activities to maintain physical training and prevent burnout

According to Weinberg & Gould (2010, as cited by Beauchamp et al, 2012), within sport psychology practice there is some interest in the implementation of psychological skills training as a critical component within the yearly training plans of national team programs.

Blumenstein and Lidor (2007) describe the four-year psychological preparation program they give to Israeli elite athletes whose goal was to participate in the 2008 Olympic Games. This psychological preparation program included three phases:

- Year 1 – Analysis, orientation, and basic foundations - the psychological preparation in Year 1 had two objectives: first, “to examine the contribution to the athlete's success of the psychological preparation given to the continuing athletes and returning athletes during the previous year (i.e., the Olympic Year of the previous four-year cycle of preparation)”; the second, “to provide the athletes with the psychological preparation they needed to achieve their athletic goals”.
- Years 2 and 3 – International experience and advanced practice – the main objective of the psychological preparation was “to teach the athletes specific intervention techniques that could be effectively used in practice sessions, multi-day competitions, and tournaments”.
- Year 4 – The Olympic year - the psychological preparation provided to the athletes during this year had three objectives: first, “to help the athletes ready themselves for several key competitions in which they had to "bring everything together" and perform at the height of their abilities in order to meet the Olympic criteria”; second, “to continue the psychological preparation of those athletes who had already met the criteria and whose participation in the Olympics was assured”; third, “to help those athletes who failed to meet the Olympic criteria, and therefore would not participate in the Olympic Games, cope effectively with their feelings of deep disappointment and failure”.

To design and implement customized mental training programs is required

considerable effort and expertise. When these cannot be used for various reasons, standard mental skills training programs can be the solution. These are useful also in the general phase of the periodically sport training program. Some of the standard mental skills programs are:

- Seven step program to peak performance, developed by Suinn in 1986. The first stage includes relaxation training based on progressive relaxation. In the second step stress management implies its recognition and the use of the centering to control it. The centering is then implemented in practice and competition. The third stage implies the thought control in which negative thoughts are replaced with positive thoughts. In the fourth stage the best personal performance are reviewed to develop self-regulation skills. The next step includes training based on visual motor behavior rehearsal. In the sixth stage the athlete learns to control attention, to focus and to refocus it after the disturbing factors action. The last step require to athletes learning to recognize and to control their arousal level.
- Rushall's program, elaborated in 1992, includes encouraging of a positive approach to sporting experience, goal setting, commitment development, imagery, relaxation skills, pre-competition and competition skills and team building.
- Fazez and Hardy have designed in 1995 a program that includes goal setting, relaxation training, mental rehearsal and concentration.

A number of sport psychologists (Boutcher & Rotella, 1987; Hardy, Jones, & Gould, 1996; Vealey & Greenleaf, 2006) have suggested that “grouping of psychological strategies into a program approach may be useful when working with individual and or team sports” (Beauchamp et al., 2012).

Psychological characteristics of combat sports

Each sport has specific psychological demands that affect the type of mental skills training necessary to improve sports performance. Their understanding and balancing with the needs of athletes can help to prioritize both mental training and the choice of specific mental skills techniques.

The specific nature and structure of any sport are among the most important determinants likely to affect its mental challenges (Moran, 2012). Combat sports are competitive contact sports where two combatants are fighting against each other under certain rules, typically in order to simulate a real fight with bare hands (Miller et al, 2009). The main objective of the combat sports competition match is the adversary dominance achieved through striking, joint lock or grappling techniques. While in the majority of sports injuries

are accidental, in combat sports these are means to dominate the adversary and finally to achieve the victory. Through sports competitions regulations is trying to minimize the risk of injury. In boxing, in addition to injuries caused by blows to the body, long-term neurological symptoms associated with the practice have been identified: brain injury, dysarthria, memory perturbations, vestibular brain dysfunctions and sensory, motor and cognitive perturbations. The most common serious injuries caused by the use of grappling techniques are located at the level of ankles, shoulders, elbows, knees and neck. The risk of injury is an extreme intensity stressing factor acting on the athlete in the matches from competitions and even in the training sparring.

Matsumoto et al. (2009) show that judo athletes and generally combat sports athletes constantly have to make motor decisions in the matches from competitions to adapt their tactics and techniques to those of opponents, in an environment with a high stress largely due to the fact that they are not only in competition with each other, but at the same time fighting against each other. According to the authors mentioned above, additional stress is caused by loss of points against the opponent because defense of points earned is much easier than recovering lost points. Ziv and Lidor (2013) highlights that “during a judo combat, a split-second lack of concentration can lead to a quick defeat”, and “a quiet mind, in conjunction with awareness of the opponent's energy and intentions, can lead to the execution of correct defensive or offensive techniques at the right moment, leading to victory”.

Competition in the combat sports (such as boxing, fencing, judo, taekwondo, and wrestling) “requires task specific psychological readiness that will enable the performer to act in combat situations that may often change within extremely short periods of time” (Pedro and Durbin, 2001, as cited in Ziv and Lidor, 2013). The combat sports athletes are faced with challenges very demanding psychologically, such as: emotional and mental states are subject to extreme fluctuations during combat matches; the competing combat athlete simultaneously attack and defend while concealing his or her intentions from the opponent, and while in a state of extreme tension; to make decisions under time pressure while facing aggressive opponents and to decide on alternative tactical movements (e.g., attentional flexibility), all while striving to achieve the designated goals (Ziv and Lidor, 2013).

From the above it emerges that combat sports imply emotional (in principal caused by the considerable risk of injury) and intellectual (need to make tactical decisions under high stress and urgency and in complex situations) demands of high intensity. The mental skills training is useful to help athletes cope with these demands. In the case of contact combat sports it may be indispensable if we take into account that some research found that the

contact combat athletes have more accentuated neuroticism trait issues than non-contact athletes. Among these research, Steven et al. (2006) revealed that judo players in comparison to other athletes have more unstable mood states changes, low coping strategies and self-set goals, high somatic tensions, aggressive behaviors, neuroticism and psychotism scores, and Wlas et al (2007) reported that aggression control was significantly lower and self-aggression significantly higher in boxers compared with non contact groups (Sohrabi et al, 2011).

Mental skills training in combat sports

In general, research on martial arts practitioners suggests that the mental skills techniques found to be effective for athletes in general are effective in increasing the performance in martial arts too (Frank, 2002), of some many have combat sports expressions. This situation is the same for all combat sports.

In the field of combat sports have been conducted a several studies on mental skills training. Harpold (2008) identified a series of mental skills and techniques used by mixed martial arts practitioners intuitively (which are not the result of systematic specialized training): self confidence (repetition, opponent scouting, self talk, training support provided by partners, coaches, loved ones), visualization/mental rehearsal (initial mental plans, situational response plans to opponent's actions), arousal regulation (breath control, self talk, increased athlete's arousal as response to physical contact caused by a blow), discipline/mental tough (change of lifestyle and social activity involving social activity regression and drastic daily routine changes, workout regimen, weight loss) and motivation (intrinsic and extrinsic). Martial arts and kickboxing practitioners have mentioned using the following mental skills and techniques: self-talk, relaxation, attention focusing, arousal control, goal setting, mental imagery, mental coping to blows, mental plans, self-monitoring, record keeping, modeling and competitions simulation (Harpold, 2008; Devonport, 2006). Gould et al. (1981) found that compared to wrestlers who do not get results, successful wrestlers are more self confident and ahead of the competition focuses only on information about the fights. Visual motor behavior rehearsing has been found effective in improving physical performance of martial arts practitioners (Frank, 2002). Gould et al (1981), in the wrestling case, and Matsumoto, Konno, & Ha (2009), in the judo case, outlines the importance of pre-competitive routines for sports performance facilitation. Based on research conducted on martial artists, Seabourne (1998, as cited in Frank, 2002) argue that: relaxation and mental imagery used together are more effective than either used alone; martial artists

practicing relaxation and mental imagery ten minutes every day performed better than those who used them immediately before competition; even individual techniques taught in groups are better than standard group techniques; there is no difference between mental imagery guided by an instructor and that self-directed; individualized cognitive techniques improve performance. In a review of 18 studies on psychological preparation of competitive judokas, Ziv and Lidor (2013) identified five psychological categories: (a) imagery, (b) motivation, (c) stress, anxiety, and mood states, (d) eating attitudes and weight control, and (e) coach/athlete interactions. To demonstrate how sport psychology preparation can be effectively integrated into the physical, technical, and tactical preparations within the preparatory, competition, and transition critical phases of the training program, Blumenstein et al (2005) selected a combat sport - judo.

Blumenstein and Lidor (2007) give specific examples of the use of the psychological program in judo in their study describing the four-year psychological preparation program given to Israeli elite athletes whose goal is to participate in the 2008 Olympic Games. They used three psychological programs during the psychological preparation:

- the Five-Step Approach - The 5-SA is a self-regulation technique incorporating biofeedback training, which enables athletes “to transfer the psycho-regulative skills performed in sterile laboratory settings to real practice and competition settings, utilizing testing and different simulative materials”. The technique is composed of five stages: (a) introduction – learning various self-regulation techniques (e.g., imagery, focusing-attention, and self-talk), (b) identification (identifying and strengthening the most efficient biofeedback response modality), (c) simulation (biofeedback training with simulated competitive stress), (d) transformation (bringing mental preparation from the laboratory to the field), and (e) realization (achieving optimal regulation in competition).

- Specific Psychological Training Program - was composed of mental skill techniques (focusing attention, imagery, self-talk, and relaxation).

- Response Training Program - The main objective of this program, containing several reaction time tasks, was “to enhance the judokas responses under real-life settings (e.g., combat)”. A computer-simulation setting was used and several factors (e.g., video demonstration of actual combats, external distractions such as noise, and competitions between two judokas performing the reaction time tasks at the same time) were adopted during training “in order to expose the athlete to more real-life competitive situations”.

Ziv and Lidor (2013) argue that “those professionals who regularly work with competitive combat athletes should obtain relevant information on psychological

interventions that are evidence-based, in order to plan task enhancement sport psychology programs aimed at preparing these athletes for practice sessions and combats”.

Conclusion

Research argued the effectiveness of using the mental skills training in sport in general and specifically in combat sports. The psychological skills training was added in the yearly training plans of some national team programs. There have been implemented four-year psychological preparation programs for the athletes whose goal was to participate in the Olympic Games.

In practice, to ensure efficiency of the mental skills training must be meet several conditions, such as: its customization based on the specific needs of the athletes, the team, and of the specific sport; its integration in rapport with the objectives of critical phases of sport training program; ongoing practice of mental skills training techniques for a long time. Also, the knowledge of the principles of mental skills training and clear delineation of mental skills from techniques in this field are very important aspects from a practical viewpoint.

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