BARÇA
INNOVATION HUB
Universitas

PSYCHOLOGICAL PREVENTION TECHNIQUES

PSYCHOLOGICAL INTERVENTION TECHNIQUES I

3.1 Control of Thoughts and Sports Routines

Introduction

Control of Thoughts

Over the course of past few years, issues related to thought and its influence on sports have been the subject of in-depth study in the field of sports psychology. Thought influences athletic performance. This is a fact demonstrated every day in competitions and training sessions.

If the mind is invaded by negative thoughts, sports results will follow along these same lines, and consequently, the athlete will not achieve optimal performance. This is why, faced with the reality of thoughts that arise in a way that is spontaneous, disordered, and not always beneficial, high performance athletes would do well to gain control over what they think about and to make their minds work in their favor.

Although there are athletes who by nature know what to think and when to think it, not all of them master this ability and not all of them can find the training staff or sports psychologists to support and educate them in this regard during their development. Fortunately, this is a skill that can be learned and can, therefore, be trained during the subject's sports career.

The thinking of high performance athletes cannot be limited to keeping negative thoughts at bay. Athletes' thoughts must be productive in and of themselves, and their thinking must be trained in order to be consistent and effective. The sports psychologist plays a crucial role in this regard as they can educate trainers so that, through their interventions, they can engender modes of thought in athletes aimed towards the same goal.

Control of thoughts is a variable that is, or should be, practiced, just as physical skills and abilities are. A negative thought can cause athletes, no matter how well-trained or skillful, to lose their attentional focus on the game and make mistakes that could impair their performance.

In the field of sports, subjects not only set aside time to work on these issues but also seek out strategies to distract their rivals and make them lose focus. Thus we know that adversaries will also strive to make their

opponents' thoughts work against them during competitions, which makes for a two-fold task: on one hand, athletes must work to keep negative thoughts at bay (not mastering a specific ability, fearing public exposure or it being revealed that they are not in good physical condition due to an old injury), and, on the other hand, they must not let their rivals utilize their own strategies to take them out of the match.

3.1.1 Theories that Further Explore the Subject Matter

Ellis's Rational Emotive Therapy

This theory explains athletes' psychological processes using the ABC model:

- A: Activating Event (e.g.: fault on the first serve).
- B: Belief, assessment, or interpretation of something (e.g.: I won't make my first serve today; I'm playing badly).
- C: Consequences, emotional or behavioral (e.g.: fear of failure, imprecise swings).

Events can be understood as the consequences of athletes' opinions and interpretations of a situation. This line of thought attempts to explain human thinking using a cognitive-behavioral approach, which takes into account subjects' thoughts and images when faced with open-ended responses.

This line of thought attempts to explain how subjects think through language: thus, it is important that athletes develop the ability to verbalize what is happening to them. One aspect of this theory that should be emphasized is that it shows subjects the consequences of their actions and the reasons behind their emotions. It teaches them a different way of thinking so that they can succeed in managing their actions and emotions. The objective is for the subject-athlete to take action when faced with everyday situations and to assess his interactions in a rational manner. The thinking that they are trying to master is one that would be more useful in the real world.

That being said, thoughts and emotions are not processes that work separately. Emotions can be modified by changing one's way of thinking.

Two points stand out here:

- Thinking and feeling are linked.

- The link between thought and emotion leads us to act in a way that is consistent with cause and effect, these often being the same: thought is emotion, and vice-versa.

Subjects, having the ability to generate language, are capable of talking to themselves (auto-verbalization) and of carrying on internal dialogs. Thus, it becomes more difficult to sustain an emotion when it is not reinforced by thought.

Beck's cognitive therapy

Beck' theory is based on an explanation of and treatment for depression, but its basic principles perfectly apply to sports. Especially the **negative cognitive triad** (attitudes and beliefs that cause athletes to perceive everything around them – the future, and themselves – in a negative light (which can lead to injuries, continual negative results, or a lack of motivation)) and **cognitive distortions**: information processing errors that are also frequently found in athletes.

Some examples of cognitive distortions in sports are:

- Arbitrary inferences: reaching conclusions without supporting evidence or that contradict results. For example: we're going to lose, they're the third-ranked team in the league.
- Selective abstraction: basing a conclusion on isolated details or on something specific that has been taken out of context. For example: I'm sure to be injured, we didn't have enough time to train in hot weather before the match.
- Overgeneralization: reaching a conclusion based on isolated facts. For example: after a series of bad first serves (tennis), thinking, "My first serve will never be effective."
- Magnification and minimization: making a mistake when assessing an event, exaggerating or minimizing its consequences. For example, thinking, "I've missed the penalty shot, now I'll lose my position as a starter."
- Personalization and self-reference: egocentric interpretation of events attributable to no one and a willingness to attribute external events to oneself. For example: "Today is a great day for the match; the weather is working in my favor."
- Superstitious thinking and catastrophic outlooks: creating a cause-and-effect relationship between events that are not contingent upon one another. For example: "I didn't bring the socks that I always wear when I win competitions, today I'll lose for sure."

One of the things that this theory aims to do is to find the thoughts that impair athletic performance and try to identify them using a set of strategies, namely:

- Identifying thoughts that are produced automatically.
- Determining how these automatic thoughts influence emotions.
- Practicing techniques for recording automatic thoughts with a routine.

Another point to emphasize (not included in Beck's model) is that of polarized thinking. In this case, reality is seen in terms of two possibilities: everything is either right or wrong. The construction of thoughts oscillates between opposing categories, and intermediary states are not perceived. This leads to the creation of heightened expectations that, if they are not achieved, negatively affect psychological variables such as stress, anxiety, etc.

3.1.2 Self-Talk as a Strategy for Controlling Thoughts

Authors such as Zinsser, Bunker & Williams (2006) explain how athletes from different disciplines recognize that they delivered better performance when they did not register thoughts in their minds; that is, when they had cognitive control (of their thoughts). In their study, they discuss the importance of self-talk as the key to achieving cognitive control.

They analyze some of applications of control of thoughts through self-talk:

- Acquisition of abilities and skills: For example: for proper execution of a tennis serve, athletes can relieve any tension they experience by saying "Stop" (to put aside any doubts) and then "Breathe," to focus on the execution of the serve and not on its result.
- Changing bad habits: For example: after a mistake, athletes that tend to get caught up in regret can use a keyword to control their thoughts and say to themselves, for example: "Next," "Recover," "Continue."
- Controlling attention: For example: after having identified disruptive thoughts that do not help them focus their attention on elements that contribute to their performance, athletes can count to 3 and then narrate the actions that they need to perform next,"Bounce 3

times, 1, 2, 3," – "Inhale – exhale" – "Look at the scoreboard" – "In" (free throws in basketball).

- Generating or altering a feeling or mood: For example: "C'mon!", "I'm good."
- Controlling effort: For example: athletes can talk to themselves and tell themselves, in accordance with their level of activity, "Calm down," "Less," "Lots more!"
- Building self-efficacy and self-confidence: For example: facing disheartening situations or a feeling of helplessness (for instance), athletes can choose words that energize and motivate them. "I've gotten out of worse situations," "I know how to do this!", "Let's go for it!"
- Increasing adherence to and maintenance of positive behaviors in regard to exercise: For example: "Although this exercise is difficult for me to do, after completing it I'll feel great because I'll have done it despite my laziness"

Self-talk techniques are cognitive strategies aimed at the ability to control disruptive thoughts that can impair athletic performance. Athletes' development of this capability will enable them to control their thoughts before, during, and after competitions.

Self-talk has been defined as:

> "an internal dialog through which an individual interprets feelings and perceptions; this dialog also regulates and changes evaluations and beliefs, *thus fostering instructions and reinforcement* " (Hackfort & Schwenkmezger, 1989).

Athletes are permanently engaged in subconscious internal dialog with themselves. The aim is for athletes to develop this ability in a consistent way so that they can direct their thoughts. Internal messages, or the dialog that athletes have with themselves, reveal sensory information and represent the system of beliefs that subjects generate from what they experience.

When discussing self-talk, Latinjak A., Torregrosa, M. & Renom J. (2009) state that it is:

- Verbalization directed at oneself.
- Multidimensional and dynamic in nature.
- Made up of one element, based on interpretations made by the subjects.

- Can be applied to motivational or instructional issues.

To the extent that athletes are aware of the internal dialog that they carry on during their sports training or during competitions, this can effect cognitive changes. This means that their thoughts and emotions, and, consequently, their behavior, can be directed in a way that could be beneficial to their athletic performance.

It is believed that once the number of disruptive thoughts is reduced through the consistent utilization of self-talk as a resource, we will see improvement in terms of concentration and performance. This is confirmed by authors such as Hatzigeorgiadis, Theodorakis & Zourbanos (2004).

One of the most influential psychological variables in athletic performance is attention. Authors such as Latinjak, Torregrosa & Renom (2009) suggest that self-talk can be utilized as a technique to direct attentional focus toward relevant stimuli in the environment or toward the subject's internal stimuli. Thus, the fact that athletes may have more control over situations during training sessions and competitions seems important.

Díaz Ocejo (2010) poses that what athletes say to themselves is what they really believe. Difficulties relating to controlling self-talk lie in the fact that this dialog happens internally and that thoughts happen automatically; thus why it is important to practice these techniques.

As for control of thoughts, Dosil (2004) contends that self-talk is of great importance because it makes us aware of inappropriate thoughts.

Díaz Ocejo (2010) summarizes some of the benefits of self-talk:

- It alters bad habits.
- It directs and controls attention-concentration.
- It encourages positive behaviors associated with athletic activity.

Hatzigeorgiadis et al. (2004) suggest that the type of words that athletes utilize should be related to the goal that they are trying to achieve during a specific task or competition. Athletes can utilize self-talk that is instructional or motivational. The use of one or the other depends on what they are about to do.

Latinjak A., Torregrosa, M. & Renom J. (2009) recommend a list of words that can be utilized by athletes according to the psychological variable that predominates in their emotional state.

Figure 1: Words targeting a psychological variable

Aim	Key Words or Phrases
Reducing anxiety	I'm in control – I know what I'm doing
Skill acquisition	Breathe – Bend elbows – Stand up straight
Self-efficacy	I know how to do it
Initiating a movement	Let's go – Going – Done
Changing bad habits	Change – Stop – Not like that
Problem-solving	Stay with the group – Call the trainer over
Monitoring effort	Easy – More – Speed up

Source: Prepared by the author based on Latinjak A., Torregrosa, M. & Renom J. (2009).

These examples should serve as a guide for athletes: the self-talk technique achieves its best results when athletes formulate their own phrases or keywords in their own words, expressed in their own way. Athletes should make self-talk their own and be capable of giving their self-instructions meaning and purpose.

The psychological intervention techniques that are used to improve athletic performance (in this case, we're referring to self-talk as a strategy for controlling thoughts) must be derived from the objectives proposed by the coach and the athletes. When working with athletes' thoughts, we insert ourselves into their internal world, thus making these types of interventions delicate and capable of arousing strong emotions that can be difficult to control.

In the field of sports, studies have been carried out on tennis, golf, basketball, and soccer. Authors such as Landin & Hebert (1999) utilized self-talk techniques with tennis players to improve their volleying and demonstrated that players improved their execution in terms of precision and increased their level of confidence and attention by acquiring new motor skills. This also reduced levels of cognitive anxiety.

As previously mentioned, this practice can be divided into instructional self-talk and motivational self-talk. A study by Hatzigeorgiadis et al. (2004) conducted on water polo players demonstrated that when the task requires precision, instructional self-talk is more effective than motivational self-talk. However, when the task requires elevated levels of

strength, motivational self-talk is more effective for improving performance. Likewise, both techniques (instructional and motivational) helped to reduce disruptive thoughts and improve athletic performance.

In order to define both styles of self-talk, we will adopt the ideas of Zinsser, Bunker & Williams (2006):

- Instructional self-talk: oriented toward attentional focus, technical execution, and tactical procedures. For example: "Rotate the trunk after the stroke," "Body low, swing the leg."
- Motivational self-talk: oriented toward increasing confidence, effort, and positive attitudes. For example: "C'mon!", "You can do it!", "Keep going!"

With what we have seen so far, it can be said that all subject-athletes carry on an internal dialog during training sessions and competitions. The objective is to orient this dialog toward a clear goal related to improving athletic performance. This dialog is the manifestation of thought; therefore, with proper training, the way that an athletic situation is assessed can be modified.

3.1.3 Control of Thoughts

Controlling thoughts allows athletes to guarantee that their performance will be under their control, since it teaches them what to think, when to think it, and how to think it.

There will be moments in which athletes succeed at becoming totally immersed in an activity where all of their thoughts are oriented toward overcoming the difficulties of competition, which reduces the probability that their mind will be invaded by inappropriate thoughts. And, if they do arise, the first thing athletes should do is identify them so that they can stop them and replace them with appropriate thoughts.

It is important to recognize the types of thoughts that may appear and undermine an athlete's performance. To this effect, the most frequently occurring thoughts are the following types:

- Rational vs. Irrational: The former are realistic and objective (If I train regularly at the gym, I will increase my strength levels); the latter are illogical, unrealistic, and permeated by subjectivity (If I don't go to the gym today, I'll lose strength).

- Positive vs. Negative: The former serve as reinforcement and motivation and support athletes in their efforts and increase their confidence (I'll succeed!); the latter impair their performance, reduce their ability to cope, and lower their confidence (I won't succeed!).

- Rigid vs. Flexible: The former are inalterable, they leave no room for additional information that could be of value in a situation (when I get the ball, I should go toward the goal); the latter can be modified and accept new external information or information that has not previously been considered (every time I want to go toward the goal, it's hard for me to come out on top. Next time, I'll look to see if I can pass to a teammate to keep the play going).

Once the types of thoughts that can invade a player's mind have been differentiated, they should be identified and, with the help of the trainer or psychologist, alternative thoughts should be formulated to replace them.

Exercises to Help Direct Thoughts

Identifying situations that generate negative thoughts, taking note of the thoughts that appear in each situation that do not help to improve athletes' performance, and, lastly, substituting these negative thoughts with others of a positive nature.

Figure 2: example

Situations That Can Generate Cognitive Distortions	Negative Thoughts	Positive Refocus
When the crowd screams my name.	Oh no! Everyone is looking at me.	Everyone is rooting for me!
When I get ready to take a penalty shot.	I'll miss it for sure. The goalkeeper will block it. And if I miss?	I've trained enough to accept the potential outcome. This will be a goal. I know what I have to do. Steady yourself with the inside of your foot.
When I'm a starter in a match.	I can't fail. The opponent is very good; I must maintain my concentration for the entire game or we'll lose. I'm afraid.	I'm a starter because I've earned it. The coach trusts me. Start with the basics: sure passes and a strong defense.

Source: Prepared by the author.

The above can be utilized so that athletes can see how they think in the moments before, during and after competitions. To visualize something means to take something that could impair performance and make it visible, which is why these kinds of interventions are extremely useful. Working as a team with the active participation of the coach, the team psychologist (should the team have one) and the athlete's family is recommended. These are the parties that relate best to the subject and their contributions can enrich these efforts.

Often, athletes speak only with their parents after completing training sessions or competitions: this indicates that the coach should have frequent contact with the family. Many trainers don't know how subjects

feel in training sessions and propose interventions that are not in line with the athletes' expectations: consequently, their performance is sub-optimal.

3.1.4 Self-Control and Managing Thoughts

The more athletes improve their thought control techniques, the more self-control they will have over themselves and, in many cases, the more efficiently they will handle their emotional stability.

Self-control is defined as a skill or ability that can be learned. It refers to an individual's control over his own behavior in regard to physical, cognitive, or social dimensions. The subject-athlete himself is the one that internally manages the variables that could alter his behavior.

As for those athletes that lack the capacity for self-control, they can be trained using a variety of techniques. Achieving control over one's thoughts, as was mentioned earlier, is one way of doing it. However, self-control has become a variable that must be studied, and, in order to do this, strategies that are useful to subjects are applied.

Self-control techniques make it so athletes do not need the sports psychologist during training sessions or competitions and know how to manage their behavior on their own. In this case, we are talking about subjects that have not achieved sufficient self-control. No athlete will be able to control his thoughts or alter his behavior unless he is convinced that this is possible.

This case is premised on the autonomy principle as it applies to subject himself, who attempts to control his behavior through his own internal or acquired strategies.

Some tools for practicing self-control are listed below:

- Self-observation: in this case, the coach should help athletes track their own behavior by establishing a recording routine. For example: one behavior to track would be to pay attention to how many passes he must make before passing the ball to the pivot. Once the exercise has been completed, the athlete shall note the number of times that he achieved success.
- Self-contingencies: in this case, a change in behavior will be generated by external agents (material reinforcements) or internal

agents (giving oneself compliments). For example: “Well done!”, “Good shot!”

- Contingencies contract: here a subject comes to an agreement with his coach or sports psychologist to carry out, for example, a series of behaviors aimed at changing his conduct. These should refer to observable behaviors, and the benefits of adherence and penalties for non-adherence, should be defined. For example: a swimmer makes a deal with her trainer: to be on time and not dawdle during training sessions; warm up correctly before getting in the water; when swimming, make an effort to finish within the times that have been established. All of these behaviors, which can be measured by both parties (the coach and the swimmer), imply benefits for good adherence (self-realization, commitment, responsibility) and consequences for non-adherence (for example, emotional consequences that will have a negative impact on self-esteem, guilt).
- Objectives: the type of behavior to be mastered is established here. These should be gradual in order not to generate negative feelings in players should they set objectives for themselves that are too difficult.

As for the self-control strategies used by athletes, it should be clear from the very beginning that the subjects should master their thoughts and behavior. These strategies are related to controlling one's behavior and can include:

- Narrowing stimuli: this refers to changing the setting (context) so that behavior can be adapted to this change. For example, on a court full of coaches, parents, tennis players, changing the place or the time of a training session to reduce the stimuli that lessen the athlete’s sense of control. As techniques are learned, more stimuli can be gradually introduced for the purpose of making the situation similar to that of a real competition.
- Situational conditioning: this refers to performing desired behaviors on repeated occasions in order to reinforce behavioral habits. For example, the performance of a successful behavior (free throws) increases self-esteem, along with efficacy, and generates the habit of repeating this training.
- Behavioral tasks during sessions: what is being proposed here is training athletes on the aspects they should modify, perhaps through talks between sessions about the importance of performing specific tasks during training sessions. This reinforces the stimulus. For example, before the training session starts, talking to the player

in order to set an objective and focus on the behaviors and techniques that they must employ. Supervision of these tasks and the feedback given during and after the training session will make it more likely that the desired behavior persists over time.

- Covert control: here, the athlete develops a list of non-observable thoughts that can prevent the appearance of unwanted behaviors. For example: "When I miss my first shot I have doubts about how I will do in the match." When this happens, the athlete is already familiar with the feeling that comes before missing a shot, which is why he will fight these thoughts with others he worked on beforehand: "The fact that I miss the first one doesn't mean anything; there's still a lot of playing time ahead," "I'll forget the mistake and focus on getting the ball back."

Self-recording during training sessions

In this case, self-recording is used as a way to learn which behaviors and thoughts should be worked on. It is recommended that long periods of time not go by without record-keeping so that this information can be internalized by the athletes.

Using this tool, the subject is able to demonstrate evidence of a process that involves behavioral changes and the results obtained. This record-keeping should be conducted at the location where the subjects perform their activities.

Some of the advantages of self-recording are:

- Subjects become protagonists in their learning process when they monitor and record the issues or variables that they must modify.
- No information is left unknown, and they learn about details of their training that might have otherwise escaped them. By recording, they obtain information.
- Athletes begin to have more control over themselves.

In view of what we have discussed, we can say that with these tools, athletes can acquire an understanding of their training process and of the variables that affect it. They improve and monitor their behavior, thoughts and emotions. They stabilize their personalities in order to cope with training sessions and competitions. Thus, their athletic performance has a greater chance of success.

Thoughts, if they are not controlled, can drown subjects when they face a stressful situation. The better a subject masters the variables surrounding a situation, the more opportunities he will have to perform successfully.

Below is a description of what are known as sports routines. The aim here is to understand how to maintain a working environment in which athletes feel comfortable.

Sports Routines

A "routine" is understood to be the acquired habit of doing things purely out of habit, without thinking about them.

It is important to stress that a routine is not the same as a ritual. In rituals, acts are performed for their symbolic value, that is, the need to reinforce some belief; these may also be compulsive behaviors.

Routines, on the other hand, can arise spontaneously (the player acquires the habit of always doing it the same way, out of natural repetition) but they can also be adopted with the aim of achieving a greater level of efficiency or performance.

In the latter case, there is a process of routine building through which athletes test which actions they feel comfortable with and which actions give them their best results. It is like a process of trial and error carried out by the athletes themselves: when they think that an certain action is useful to them, it becomes routine.

After building or repeating, comes the step where the player adopts the routine. This implies numerous repetitions in order to achieve automation. They first do this during free training, under practically no pressure, and then during match-training situations and competitive matches. During this stage, athletes should be patient and know that the routine does not ensure results but that it does improve the conditions for execution and, therefore, the probability of success (especially for technical motor patterns that are unopposed: penalty shots, free throws, serves in tennis).

A routine can be adjusted if necessary, but when complete automation is achieved, athletes will stop thinking about what they have to do and just do it without thinking. This is the point at which the routine has been solidified and when athletes have most control over their psychological abilities, even at times when they are under a great deal of pressure. Routines allow athletes to focus their attention on the elements that are

under their control, ignoring stimuli out of their reach, and elements that could, on occasion, be considered distracting elements.

Routines can be discussed right before a competition, during a competition, and even after a competition. Examples of routines for the moments before, during and after a competition might be:

- Pre-competition: Listening to music, visualizing technical exercises (serves in tennis, movements to perform on a climbing route, executing a high jump).
- Competition: In golf, for example, before making a putt (a stroke made on the green), athletes become used to already having decided on their movements beforehand: Looking at the slope of the terrain head-on, taking practice swings to measure force before the swing, body positioning, looking at hole and, finally, swinging.
- Post-competition: Muscle stretching and/or relaxation exercises are usually performed after a competition.

It should be emphasized that routines create comfort zones for athletes after they assure themselves that some behaviors give them positive results. This generates a great deal of resistance to change because their thoughts and behaviors run in one specific direction. As coaches and sports psychologists, we should be careful when it comes to resistance to change: changes should be gradual and adapted to subjects' capabilities.

3.2 Self-Talk and Mastering Keywords

Introduction

In the next unit, we'll expound on one of the variables of cognitive support in the field of sports psychology: the self-talk technique.

Many authors have studied this technique, and while it was mentioned in the previous unit, we will analyze it in detail here.

3.2.1 Concept

Hardy (2006) defines self-talk as:

> "Verbalizations or statements addressed to oneself that are multidimensional in nature, that have interpretive elements associated with the content of the statements employed, that are somewhat dynamic, serving at least two functions: instruct and motivate."

This definition was used for many years until several authors deemed that it should be complemented by and revised based on studies conducted *a posteriori*.

Simply stated, self-talk is not the act of talking to oneself, since this is something that everyone does, in every line of work. In the context of sports, this act takes on added importance because one word can set off a series of reactions, which can be either advantageous or disadvantageous for athletic performance.

Zourbanos, Papaioannou, Argyropoulou & Hatzigeorgiadis (2014) claim that over the past few years, self-talk techniques have played a determining role in athletes' athletic performance and self-regulation.

Another definition associated with this concept poses that subjects interpret their state of mind and that based on this, they change, reinforce or regulate their behavior (Hackfort & Schwenkmezger, 1989).

When a player tells himself, "C'mon, one last effort to get the ball in the net," that athlete is giving himself an instruction in regard to where to aim the ball because he believes it is his best option, but he is also encouraging himself by telling himself to put in a bit more energy, that it's about to run out. A tactical component and an emotional component merge, these having been trained and visualized beforehand in an attempt to motivate the athlete.

In the numerous studies carried out on self-talk, one of the authors who compiled the most definitions in order to reach a consensus has been Hardy (2006), who defines the practice as:

> "A verbalization or statement directed at oneself, that has a multidimensional nature, that has interpretive elements associated with the content of the statements employed, that is relatively dynamic, and which serves to instruct or motivate" (p. 84).

The earliest definitions distinguished two types of self-talk: positive and negative. The former refers to words of encouragement that can be said by a subject. More specifically, they put the athlete in the present moment. By contrast, negative self-talk is considered to be destructive: it robs the athlete of focus and holds him back from achieving his objective (e.g.: I'm very tired; my whole body hurts and I feel aches and pains; I won't be faster than my opponent; I don't feel well-trained and don't know what I'm doing in this competition).

The problem identified by these authors arises because the concept is so broad that it cannot be broken down into two types (positive and negative). Gradations between the previously proposed extremes should also be considered (Hardy, Gammage & Hall, 2001). What's more, it was found that, in some cases, negative self-talk ends up generating motivational impulses that cause athletic performance to improve, the opposite of what had previously been supposed. Sometimes, athletes describe this effect as an argument with themselves, in which their internal voice was telling them that they could not win or finish a race and, at the same time, another internal voice would not succumb to this first message and instead motivated them to silence that voice. This second instruction was the driving force they used to focus on what they had to do in the game.

One of the main objectives that we strive for in sports psychology is to give athletes tools so they can manage their thoughts and emotions in order to make decisions.

3.2.2 Theoretical Models that Give Rise to Self-Talk Techniques

Based on Beck's cognitive theory, which addressed questions related to depression, proposals were made to adapt it to the field of sports. This theory describes the negative cognitive triad and cognitive distortions. The former refers to the negative view that people have of themselves, the world, and the future. That is, an athlete might begin to reach conclusions of the "I'm not doing well" type (negative view of oneself), then move on to "There isn't anything that can help me right now" (negative view of the world) and finish with "I won't be able to win this match" (negative view of the future). This could be related to negative events in the athlete's past (a string of negative results, sports injuries, a lack of motivation, etc.). At times, this manner of seeing and relating to oneself and to one's environment can cause an athlete to experience a state of learned helplessness that anticipates defeat, accepts it ahead of time, and considers success an impossibility.

In high performance sports, the demands of training and, even more so, of competition, are so high that these kinds of invasive thoughts appear and disappear very quickly. The stimuli that generate cognitive distortions are associated with a variety of sources.

During competitions, each player will have a different interpretation of what is happening. Each perception differs depending on the sum of their individual experiences. It is perception that influences us, more than the game itself or our opponent.

Figure 1: cognitive distortions. Examples.

Distortion	Definition	Examples
Referees	Jumping to conclusions without evidence when they do not agree with the outcome.	The coach doesn't trust me: I won't become a starter.
Selective abstraction	Jumping to conclusions based on evidence taken out of context.	I don't finish matches in the physical condition that I'd like to.
Overgeneralization	Jumping to conclusions based on isolated facts.	I won't be a starter anymore: the coach has made me a substitute.
Magnification and minimization	Making mistakes due to issues that have been magnified or minimized.	I'm at my best (an athlete who has completed his first proper training session in a long time).
Personalization and self-reference	Attributing others' successes to oneself and inflating one's ego through collective achievements.	Everyone on this team is better than I am.
Superstitious thinking and catastrophic outlook	Making cause-and-effect connections based on unrelated facts.	On Mondays, I can only train in the morning. If I train in the afternoon, I won't be in good shape when I compete.

Source: Dosil (2004).

High performance athletes face very intense situations and physical demands. This produces, at the physical level, an elevated level of fatigue in which the body sends messages to the mind to stop subjecting oneself to this level of intensity. When this happens, the mind begins to generate thoughts that are not related to keeping going but to stopping what the subject is doing. Here, something that athletes experience at all times manifests itself: the struggle between what they want to generate with their minds (continuing with the competition despite the physical demands) and what is happening to their bodies (elevated levels of

fatigue). By means of cognitive self-talk techniques, athletes can work to silence physical signals and convince themselves that they are capable of continuing with their training sessions and competitions. It is a way of focusing on the dialogs they have with themselves when energy levels or mistakes cause mental and physical exhaustion. Thus, the mind is ordered be alert to the here and now and to direct its attention toward relevant matters (both game-related and emotional) to avoid obeying thoughts that do not contribute to athletic performance.

Athletes should feel that the situation is under their control and that their thoughts are contained. In this case, some authors talk about flow, a term that refers to thinking about only what needs to be done. How much, how, and when to think are variables that lead to the feeling that one has control over the situation, over their thoughts, and, therefore, over their emotions. For an athlete to achieve this state, they must have had prior training, not just at the technical-tactical level but also in training their thoughts and emotions and focusing them according to different situations. This will help them achieve that feeling of control. For example, a rower is facing a competition where there is a lot of wind (a circumstance that causes anxiety because he's not very used to it). If he has previously worked on feelings and emotions that could appear (I'm not prepared for so much wind; I'll exhaust myself too soon; I hope my rudder doesn't break) and practices thoughts that will be of help in those specific moments (I don't have too much experience training in wind, but I'm prepared for it; I'll sail intensely but calmly, step by step, without thinking of the bad things that could happen), this lets him redirect his thoughts in each circumstance that presents itself during the competition.

Vealey (1992) claims that athletes keep up their confidence using a system of beliefs about their motor performance capabilities. In regards to self-talk, it is connected with this system of beliefs because athletes believe everything they tell themselves. This makes it impossible to control athletes' internal dialog, since thoughts are invisible to others.

Faced with this impossibility, cognitive strategies, such as self-talk, have been refined in hopes of stopping the stream of negative thoughts. Weinberg & Gould (1996) observe that some 66,000 thoughts are processed daily, of which between 70% and 80% are negative.

Authors such as Buceta (1998) propose a series of benefits to controlling variables, if self-talk techniques are mastered:

- Emotional stability is generated.

- Self-confidence and motivation are stimulated.
- Concentration is regulated.
- Athletes are inclined toward action.
- Athletes are prepared to face stressful moments.
- Successful behavior is reinforced.

Lorenzo (1997) indicates that self-talk is directly related to decisive behavior. Inappropriate thoughts and ideas manifest themselves as inappropriate behaviors. Depending on what one tells oneself, what manifests itself as external behavior can be modified by altering internal behavior (thoughts, emotions). In the case of a swimmer, an instruction is given by way of self-talk, such as, for example, "I must lengthen my stroke in the final meters while pushing harder with my legs" encourages a change in behavior during a heat.

The more we work on specific thoughts, for example, negative thoughts, the more the brain creates synaptic connections that are devoted to those thoughts and reinforce specific neural connections that endure over time. Some call this the "synaptic footprint." This term is usually used to refer to motor skills: the more a specific athletic motor pattern is practiced, the larger the synaptic footprint for this motor pattern will be. This tends to create a problem when it comes to modifying a motor pattern. The stronger the neural connection, the more difficult it will be to modify it. Something similar happens with thoughts: the more subjects think negatively about their performance capabilities, the harder they will have to work to change this thought dynamic and the behavior through which it manifests. If a player believes that he is no good when it is time to take a penalty shot, and he has had this idea since he was a child, then he will not be good at performing this task.

Weinberg & Gould (1996) use what happens at the information processing and self-talk level in specific situations during a tennis match as an example.

Figure 2: self-talk and its effect on athletic performance.

Event	Self-talk	Response
Failing at a critical point of the match	"I'll lose this match." "I'm a dummy."	Increase in muscular tension, anger, loss of enthusiasm.
Failing at a critical point of the match	"The match isn't over yet." "Concentrate on the goal."	Tranquility, improved concentration, optimism is maintained.
Aggravation of a sports injury	"I'll never be a starter on this team again."	Frustration and loss of hope.
Aggravation of a sports injury	"I'll have to work hard to recover."	Increase in effort, optimism, motivated to achieve the objective at hand.

Source: Weinberg & Gould, 2003.

Desirable thought patterns (positive thinking) are related to athletes' understanding that their behavior is a reflection of how they interpret the stimuli in their environment.

Some high performance athletes claim that during the competitions in which they performed best, they did not think at all. This means that the level of concentration achieved by this type of athlete (elite) is so elevated that no self-talk is generated at all. Concentration, as a psychological variable to train, is a cornerstone of achieving optimal results in sports.

Other examples of studies conducted on the subject of self-talk include that of Hanin & Stambulova (2002), who claim that analogies can be employed as self-talk strategies, such as: "I'm fast as lightning" or "I'm strong as a rock." According to the authors, these types of analogies lead to improvements in athletic performance.

3.2.3 Self-Talk and its Classification

Cratty (1984) was one of the first to attempt to interpret what athletes think. To do this, he differentiated between thoughts and proposed a set of categories to bear in mind:

- Place: Divided into specific (the field, the gymnasium, etc.) and general (the setting of any of the athlete's day-to-day activities). Training ground, everyday living spaces.

- Content: thoughts having to do with fears of competing or fears relating to the execution of a technical motor pattern during a critical moment of the competition. General: having to do with fears regarding opponents, tactics, etc. Specific: having to do with execution and performance situations that are soon to take place, such as the state championship, a training session devoted to backflips.
- Personal: thoughts that are instigated by people in the athlete's environment, or by the athlete himself. Whether they come up when the athlete is alone, with another athlete or with the coach.
- Intellectual: in this case, memory, the objective analysis of an opponent, or thought processes aimed at problem solving are utilized as resources. (Imagery, memory, analysis, problem-solving)

Authors such as Rushall (1995) suggest that the principal influence on thought formation is the setting in which the activities are performed. On this basis, he suggests that athletes employ a strategy of planning their thoughts based on competitions. The planning, practice, and mental recording of the thoughts that the athlete should have, not just before an event (a competition and/or training session), but also in each specific situation, prompts an improvement in concentration. If during a floor exercise, a gymnast has planned all the thoughts she must have with each breath before executing a series of diagonal floor exercises (e.g.: tensing up the legs during landing, sprinting after coming out of the first turn, bending the knees sufficiently to gain more altitude during the jump), this will help her to focus her attention on the relevant aspects of each element as well as on enhancing her control during these movements.

Applied research conducted on different athletic disciplines (swimming, long-distance running, wrestling, cross-country skiing) shows how important content relevant to the task is to improving performance. That is, when athletes, especially elite athletes, always choose the content of their thoughts.

Rushall (1995) claims that thoughts based on relevant content are more closely associated with improved performance than positive thoughts. He states that the latter tend to be trivial, while those related to the task have a more specific effect on what they are attempting to achieve. For positive thoughts to not be trivial, he suggests that they serve a purpose for the subject, such as:

- Providing constant motivation.
- Allowing them to control their efforts.

- Evaluating the objectives to be achieved during each stage.
- Giving them control over self-talk at all times.

The author determines that there are two types of thoughts that can benefit the subject-athlete:

- Motivational words: using unvoiced words for the purpose of motivating and inspiring (e.g.: fight to the finish, you are better, you're trained for this).
- Thought intensifiers: maintain concentration and avoid distractions originating from the environment (e.g.: focusing attention on specific actions: up, swing the arm, turn).

Figure 3: Types of thoughts

The structure of athletes' thoughts	
Types of thought	Characteristics
1- Oriented toward serious competitive situations	Thought planning
2- Dividing up performance	Focusing thoughts on each segment
3- Content relevant to the task	Attention aimed at relevant stimuli
4- Positive thoughts	a) Self-motivation b) monitoring effort c) evaluating the goals of each segment d) keeping up with self-talk
5- Motivational words/intensifying thought	Complements of proper cognitive function

Source: Rushall, (1996).

Types of Self-Talk

As was mentioned at the beginning of the unit, dividing the concept of self-talk into two categories can be reductive, as it is a term that allows for the inclusion of a greater number of variables.

However, scientific publications are written taking as a premise the influence that positive and negative types of self-talk have on athletes during competitions or training sessions.

Before we review this literature, we will go over a list of definitions and a description of types of self-talk that focus on two specific types (automatic and strategic), which contain different subtypes, in order to cover the term's broad spectrum of meaning.

Automatic: refers to the kind of self-talk that the athlete did not put through the planning process beforehand. Athletes initiate self-talk spontaneously; it aims to achieve a goal but is not planned out. On the basis of intent, it can be divided into:

- Undirected or spontaneous: in this case, it lacks intent and conscious effort. Intuitive in nature. As for information processing, it manifests itself quickly, which may or may not be related to a specific context or activity. In turn, this is subdivided into: spontaneous goal-directed and spontaneous undirected. In the case of the former, the internal message (self-talk) is related to the context and to the activity that is being performed. In the latter, the content of the internal message is unrelated to the context and the activity being performed.
- Directed: conscious self-talk that athletes use to attempt to control themselves and self-regulate. This relates to both the athlete's current situation and desired situation, as well as how to link these two realities: current and desired.

Strategic: self-talk that does not arise spontaneously out of the situation that an athlete is experiencing, but rather has been planned beforehand. The subject utilizes a set of strategies, such as previously formulated specific words or short sentences, that he repeats to himself in situations in which using such resources is appropriate. Two types of self-talk are derived from this definition:

- Instructional: this is related to directing attentional focus, which focuses on biomechanical, technical, and tactical type variables. Clearly directed at an athlete's motor resources for proper execution. Using internal words or messages relates to the details of movements. As the name indicates, the objective of these self-instructions is to recall details during the execution of a movement or while processing of tactical information.
- Motivational: clearly directed at maintaining a positive emotional state or increasing or maintaining confidence levels.

Spontaneous self-talk is thought to be a window through which to access the thoughts and mind of an athlete, in which psychological variables manifest, such as in the case of causal attributions (it is my fault), assumptions related to performance (we won't win), the consequences of this (they will never trust in me again), motivational issues (I must win), the ability to self-regulate behavior (I don't understand what I have to do), and self-efficacy levels (I have what I need to do it).

As for directed self-talk (Latinjak et al., 2014), it is thought to be useful in the following ways:

- Cognitive restructuring (mistakes are part of the process).
- Cognitive control (I should concentrate on this game).
- Levels of confidence (we can win this game, no doubt).
- Control over arousal (I'll do my very best in this game).

Usefulness of Self-Talk in Sports Training

Over the years, and thanks to the progress made in the field of sports psychology, it is believed that, because of its positive effect on athletic performance, self-talk should be a priority objective when developing psychological techniques for mastery of this variable.

Because there is a growing wave of scientific research on the topic under study, we will now describe some of the contributions that these studies have made. Lane, Thelwell, Lowther & Devonport (2009) demonstrate that athletes who are skilled at managing their emotional stability and emotional intelligence improve their levels of self-esteem through the frequent use of resources such as self-talk. This demonstrates the direct relationship between the use of self-talk and improved athletic performance.

Raalte et al. (2000) found a direct relationship between the use of spontaneous, negative self-talk and lost points in tennis during critical moments of the match. In the moments when athletes experience anger or fear, the self-talk that is generated, if it is spontaneous, ends up emotionally impairing their performance.

As was mentioned at the beginning of this unit, most studies revolve around the consequences or benefits of using positive or negative self-talk. The evidence available shows that in sports like tennis, positive self-talk produces positive results. In swimming, satisfactory results are obtained through the use of positive self-talk during 400-meter heats (Rushall & Shewchuk, 1989). The same authors applied this to elite-level rowers, and the use of positive self-talk also produced favorable results.

An interesting study carried out by Rushall, Hall, Roux, Sasseville & Rushall (1988) studied the use three types of self-talk among cross-country skiers: positive self-statements, task-relevant statements, and self-motivating mood words. The results showed improvement in 16 out the 18 athletes, which means that these techniques are useful for improving performance,

if and when negative messages are not applied. The strategy of utilizing internal messaging benefits performance, which is why it is recommended that plans be made for athletes to utilize positive self-talk resources in specific situations.

Rotella (1980) claimed, in a study conducted on skiers, that using positive self-talk can, in some situations, impair athletic performance if it is not carefully directed toward what one wants to improve. That is, the use of self-talk during specific actions and at specific times. It is worth recalling that it is advisable to use it strategically, that is, planning and formulating it beforehand.

A study on tennis players demonstrated how they use audible self-talk and gestures during matches. This study shows that, most of the time, players carry on negative self-dialog before committing a fault or losing a point, and use positive self-talk less often. Although when it was employed, no favorable results were produced. This is due to the fact that it is rare in comparison to negative messages. To summarize, if athletes utilize positive self-talk, they do so less frequently than negative self-talk. Their emotions are therefore already dominated by anger, making it impossible to improve performance.

Studies carried out on the applicability of self-talk are oriented toward supporting athletes' use of this resource to improve their athletic performance.

Application Methodology

The following are the objectives that the field of sports psychology seeks to achieve through the use of intervention techniques:

- To gradually improve the psychological abilities of athletes, making these abilities part of a planned process.
- To adjust the expectations of athletes according to the reality and potential of the tasks to be performed.
- To stabilize behavior during training sessions and competitions.
- To improve the capacity for psychological recovery after frustrating events in order to face what is still to come.
- To have access to a spectrum of psychological resources and to master their application for each problem to be solved.
- To develop the ability to identify the appropriate moments in which to utilize psychological resources.

Taking the above into consideration, we can say that athletes utilize self-talk constantly and that trainers, along with sports psychologists, are the ones that are tasked with overseeing the application of this resource. It is important to see self-talk as a resource to be utilized and not as a nuisance that interferes with training sessions and competitions.

Athletes and the their teams are responsible for boosting their performance by using the resources that are available to them. Among all psychological variables, self-talk should be considered one of the variables that is most closely associated with the likelihood of success and improved performance. When athletes think and tell themselves that they are not capable of achieving something, they immediately lose their focus, their stress and anxiety levels increase, and the set of variables that impinges on correct physiological functioning spikes, resulting in diminished performance.

Internal dialog is manifested through behavior. When a player is able to objectively relate what he thinks about during specific situations when consulted by a trainer, this demonstrates a great deal of responsibility and maturity on the part of the player. This information should be gathered by trainers and psychologists in order to compile information in order to put together intervention strategies to implement with our athletes.

There is a dearth of investigative studies that differentiate between thinking styles among athletes who play team sports versus those who play individual sports. Group dynamics in team sports generate thinking styles that likely differ from those of a subject that plays an individual sport. On a team, the group tends to function as a stimulating or depressing factor, depending on what is occurs during a competition or training session. Therefore, collective reactions influence the thoughts of team members both positively and negatively. In individual sports, there is only the athlete and the upcoming event.

It is important to highlight that self-talk is a powerful tool that, like any other physical, technical and/or tactical factor, must be practiced. We should support athletes during training sessions and competitions so that they can take full advantage of this technique and can, therefore, improve their athletic performance.

When lending them support, the different types of self-talk, strategic and automatic, should be discussed. Also, it is important to master both instructional self-talk (in order to improve attention) and motivational self-talk (in order to maintain positive states of mind and increase or maintain levels of confidence), both of which pertain to strategic self-talk.

It is also important to work on and to let the athlete discover the different thoughts that may come up during both training sessions and competitions. It is important for them to learn about different kinds of thoughts and self-talk so that they might be able to face a variety of competition scenarios with the utmost capability and best performance possible.

At the same time, athletes should be able to appropriate self-talk, formulate their own messages, and give them meaning. When self-instructions are formulated by the athlete himself, the effect will be greater than if the messages are formulated by trainers and/or sports psychologists. The subject should be able to utilize their own mode of expression and their own words to generate a motivational instruction or message.

3.2.4 Keywords

Throughout this entire unit, we have been talking about self-talk and its different types. Next, we'll look at another type of self-talk that has to do with specific instructions players give themselves regarding a specific tactical-technical aspect of a task. This technique's objective is to direct attention towards specific aspects of their performance just in time to perform an action and do so successfully.

The aim of using a keyword is to concentrate on relevant stimuli in order to improve the athlete's performance, avoid distracting thoughts and/or to focus when distractions arise, encourage learning techniques and tactics and, lastly, for a trainer and a player to share a common language, not just during competitions but also during training sessions, as regards putting techniques and tactics into action.

One of the advantages of this technique is that not only can athletes come up with their own keywords, but they can also count on the bench as an "accomplice": the trainer, who, knowing the keyword that players uses, can remind them when there is something that requires their attention.

The keyword technique must meet some conditions in order to be effective:

- It must be suggested by the athlete so that he can identify with it, although this doesn't rule out the possibility that the trainer might collaborate on and contribute to its creation. It is recommended that the keyword be shared, since that way the trainer can put it into

practice and prompt the athlete during training sessions, matches or competitions.
- It must be short (1 or 2 words) or could also be a sound associated with the action to be performed.
- It must be based on something positive.
- It should be related to the stimulus that requires attention.
- It should be related to the action.

Lastly, we will provide an example of how to implement the keyword technique:

The keyword technique allows the athlete to focus his attention on and be aware of specific technical or tactical aspects of a task in order to perform them just at the right time. So, let's think about, for example, a tennis player who appears to be experiencing difficulties when serving; he has negative thoughts that do not help improve his performance when he has to prevent an opponent from defending his serve. The keyword should enable him to eliminate those thoughts by focusing on the technical aspects of his serve. After analyzing his serve, the tennis player chooses the key movements for proper execution, during which he must focus his attention (bend his legs, raise his racket, swing his racket). The athlete should be capable of encapsulating those elements in a single idea. By asking the right questions, the athlete arrives at his keyword, allowing him to gather up all of these technical aspects and focus on proper execution. The tennis player chooses the keyword "Wide" to make sure he performs the entire movement without stiffening up, or maybe he chooses to count off "1,2,3", keeping time with the elements that he previously identified (bending his legs, raising his racket, swinging his racket).

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