Goal-Directed Self-Talk Interventions: A Single-Case Study with an Elite Athlete

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Abstract

The purpose of this single-case study was to describe a goal-directed self-talk (ST) intervention with an elite athlete. The participant was a 36 year-old elite orienteerer, who declared himself to be continuously engaged in some sort of autonomous self-dialogue. During six sessions, we undertook an intervention which started with identifying variety of relevant problematic sport situations and goal-directed ST in them. Subsequently, through questioning, the original ST was challenged and alternative instructions were theoretically examined before putting them into practice. The participant valued highly the intervention process and its outcomes. Overall, the study provides preliminary evidence on the effectiveness of goal-directed ST interventions and encourages research to further explore their potential.

Keywords: sport psychology, athletic performance, cognitive processes, thinking

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During the past decades, a large amount of applied and theoretical research has helped us to expand our understanding about self-talk (ST), to a point where ST can be considered a main research topic in sport psychology (Latinjak, Zourbanos, López-Ros, & Hatzigeorgiadis, 2014). Lately, some researchers have shifted part of their efforts to identifying different paradigms in ST investigation. Theodorakis, Hatzigeorgiadis and Zourbanos (2012), for instance, distinguished two main research paradigms: one addressing the effects of ST as a cognitive intervention strategy, and another seeking to describe and explore athletes' automatic ST.

With regard to strategic ST, the development of relevant interventions is rooted to self-instructional training introduced by psychotherapeutic approaches. Meichenbaum (1977) in his cognitive behaviour modification theory considered self-statements as indices of individuals' beliefs and stressed the important role of self-instructional training for treating cognitive and emotional disorders. Similarly, Ellis (1976) within the framework of rational emotive therapy argued that thoughts are central to the formation and change of emotions, and suggested that the reconstruction of these thoughts can provide the basis for cognitive-behavioural approaches to regulating emotions and improving performance. In the sport field, two main categories of strategic ST interventions have been implemented: instructional and motivational ST (Hatzigeorgiadis, Theodorakis, & Zourbanos, 2004). In relation to their effects, there has been sufficient empirical evidence that allowed Hatzigeorgiadis, Zourbanos, Galanis and Theodorakis (2011) to publish a meta-analysis about ST and sport performance. Overall, their results have confirmed the effectiveness of strategic ST interventions, encouraging the use of ST as a strategy to facilitate learning and enhance performance.

With regard to automatic ST, early research has differentiated between two broad types of ST in terms of content, positive and negative, and studies have mostly on factors that

influence athletes' ST (Zourbanos, Hatzigeorgiadis, Chroni, Theodorakis, & Papaiannou, 2009). Recently, Latinjak et al., (2014) have introduced a distinction between different kinds of automatic ST based on the conceptualizations of thoughts in general psychology (e.g., Christoff, Gordon, & Smith, 2011). They distinguished undirected ST, that is, non-instrumental ST that come to mind unbidden and effort lessly, from goal-directed ST, which consists of statements deliberately employed towards solving a problem or making progress on a task. Yet, goal-directed ST is automatic, as it emanates from the athlete, and not strategic, as it was not part of a ST plan designed by a coach or sport psychologist.

Latinjak et al. (2014) described seven subtypes of goal-directed ST based on their purpose: (a) controlling cognitive reactions (e.g., Not everything can go the way you want it to go), (b) controlling activated states (e.g., Don't be afraid), (c) controlling deactivated states (e.g., Don't give up), (d) creating activated states (e.g., Give a 100%), (e) creating deactivated states (e.g., Calm down), (f) regulating cognition and behavior (e.g., Concentrate), and (g) focusing on positive predictions (e.g., You will win).

When describing goal-directed ST Latinjak et al. (2014) identified that strategic ST interventions were mostly based on goals-directed ST. Motivational ST interventions employ cue words (e.g., Come on!/ Calm down) which could be classified as goal-directed ST creating activated states (Kolovelonis, Goudas, & Dermitzaki, 2011) and goal-directed ST creating deactivated states (Hatzigeorgiadis, Zourbanos, & Theodorakis, 2007). Furthermore, instructional ST refers to the use of cue words (e.g., Bend your knees) which could be classified as goal-directed ST regulating cognition and behavior (Latinjak,Torregrosa, & Renom, 2011). In spite of several overlaps, there are also two main differences between strategic ST interventions and goal-directed ST. In first place, goal-directed ST is completely self-determined, whereas strategic ST interventions could be considered, to some degree, attempts of sport psychologists and coaches to influence athletes' cognition. In second place,

strategic ST interventions have been planned previous to their application, whereas automatic ST emerges during sport participation.

Latinjak et al. (2014) noticed a lack of evidence regarding the effects of goal-directed ST, in contrast to the plethora of studies examining the effects of strategic ST on performance. Similarly, no strategic ST intervention study has taken into account the athletes autonomous efforts to resolve his/her problems through the use of automatic goal-directed ST. In this study, we sought to build a bridge between goal-directed ST and strategic ST interventions. The present study was also thought as a first step towards the study of the effects of goal-directed ST on performance. Therefore, a new approach to ST interventions was adopted in this study: a goal-directed ST intervention, aimedat helping the athlete to come up with alternative goal-directed ST in specific – problematic – situations during competition. Hence, the purpose of this single-case study was to describe a goal-directed ST intervention with an elite athlete. Applied in isolation from other psychological interventions, it was believed that for such an intervention to be relevant for performance, an individual sport with high cognitive demands should be targeted. Furthermore, it was considered that a single-case design would be justified because, to the best of the authors' knowledge, this intervention would be the first intervention based on the goal-directed ST framework. Moreover, the intervention was expected to be very idiosyncratic in nature, which would make group applications impractical.

Method

Participant

The participant was an elite 36 year-old orienteerer, with 12 years of experience in his sport, and previous experience in other outdoor and mountain sports, such as tracking and climbing. Regarding his most remarkable achievements during his career, he won the Spanish Championship in team modality twice, and placed among the best one-hundred (over 1400

participants) in the Jukola race, an outstanding event in his sport. Moreover, he repeatedly took part at large international events such as the O-cup in Slovenia or the O-Ringen in Sweden.

At the time of the data collection, he was training between 11 and 15 hours a week and, for the last two years, he was competing in national and international events. On an international level, he was among the top fifty orienteerers in his category. In regard to ST, the participant underlined the importance of concentration as a psychological skill, and ST as a psychological tool, in his sport. He recognized that he is continuously engaged in some sort of autonomous self-dialogue. Nevertheless, he had never received any formal psychological training, and, hence, no ST intervention. As for orienteering, this sport has been described in the literature as highly demanding on a perceptual and cognitive level (Gúzman, Pablos, & Pablos, 2008). Ethical approval was obtained from the local research ethics committee and the participant provided written informed consent. Moreover, the participant has seen and approved the final version of this manuscript prior to publication.

Procedure

Altogether, six interviews were conducted, starting at the beginning of the competitive season. All sessions were audio-taped with the explicit permission of the athlete. In each session, a sport psychologist with over ten years of applied experience as well as an expert in orienteering were present all the time. After the initial contact, a semi-structured interview was conducted (Session 1) about the athlete's perceptions regarding the psychological demands and necessary psychological skills in his sport. From this point forth (Sessions 2-6), meetings were held every two to three weeks to discuss past competitions. The athlete brought the maps with GPS data in regard to his own path and speed during the different trials, which were thoroughly discussed. Whenever the athlete identified, or we intuitively expected, a meaningful situation, a series of structured questions were asked (see, Figure 1).

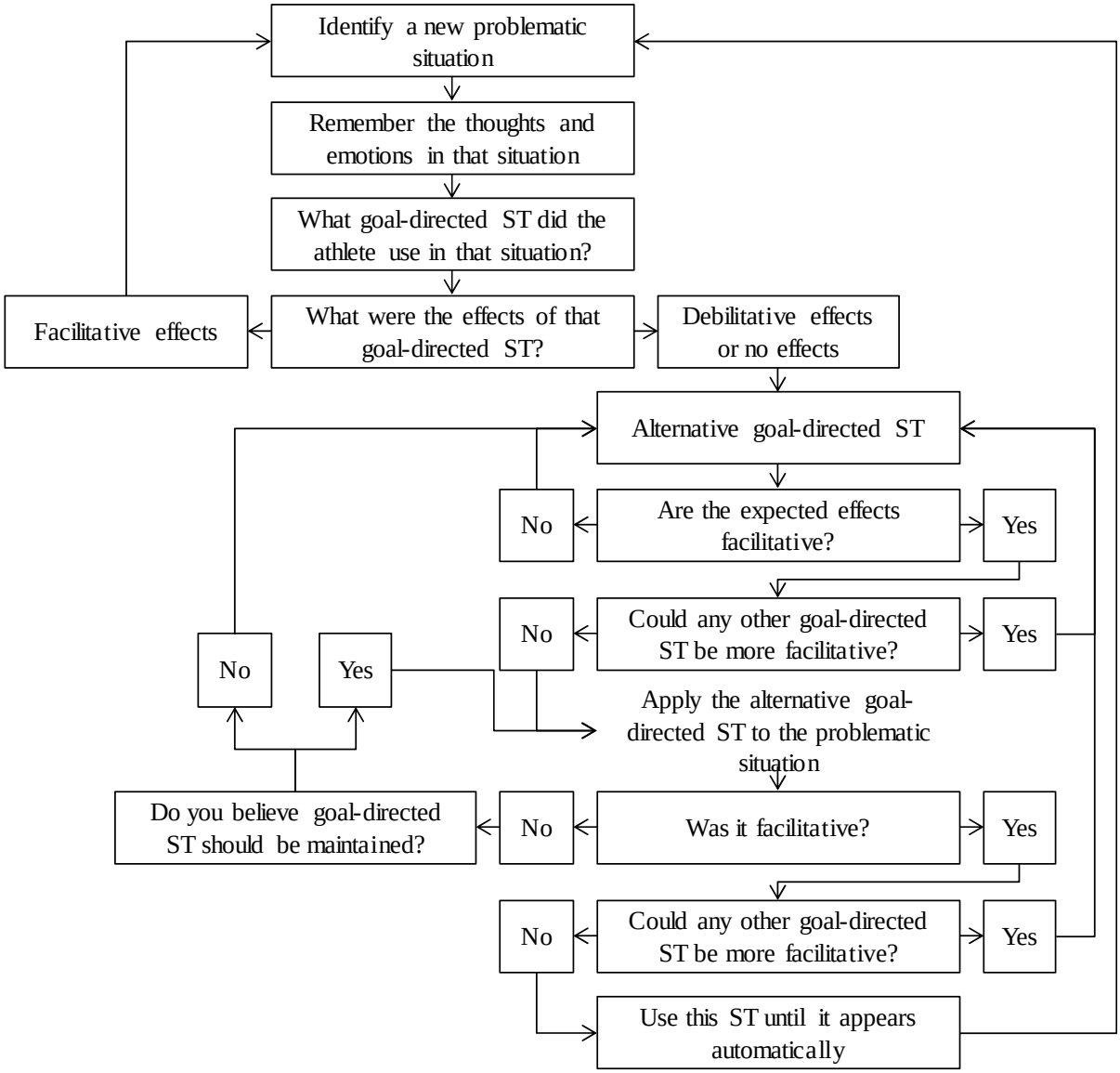
Once the data collection and the data analysis were completed, we asked the participant to comment on the results and to evaluate the goal-directed ST intervention. Considerations made by Page and Thelwell (2013) were taken into consideration when collecting this social-validation data. Specifically, four questions were addressed: (a) what do you think about the goals of the intervention, (b) what do you think about the intervention procedures, (c) what do you think about the results produced by the intervention procedures (Barker, Mellalieu, McCarthy, Jones,& Moran 2013), and (d) do you think the method and result section, including Figure 1 and Table 1, represent the intervention correctly. A written response format was used for the social validation, so that the participant could reflect upon the questions at home during the time he considered necessary.

Data Analyses

All sessions were transcribed verbatim by the first authors. All further data analyses were conducted, first individually by each author, and later discussed in group sessions. In case of disagreement, the researchers convened until agreement was reached. Overall, the aim was to illustrate the intervention process with goal-directed ST. Therefore, we identified sequences which contained (a) an original problematic situation, (b) emotions and thoughts in that situation, (c) the original goal-directed ST, (d) the perceived effects of the original goal-directed ST, (e) the alternative goal-directed ST, and (f) the perceived effects of the alternative goal-directed ST. In regard to the effects of the intervention, we opted for the use of subjective, qualitative, performance ratings. According to Page and Thelwell (2013), these data ought to be collected before, during and after the intervention. The participant's initial conceptions about ST are included in the participant section. His ratings during the interventions are represented in the main result section. Finally, his general ratings about the intervention are displayed at the end of the result section.

Figure caption

Figure 1. The goal-directed self-talk intervention process.



Results and Discussion

The results in this section are presented in two consecutive steps: first, we described four situations, identified as problematic by the athlete, for which the goal-directed ST intervention was implemented; second; we resume the athlete's comments on the intervention. Afterwards, we discussed the goal-directed ST intervention and offered conclusions of the study.

Table 1: *Complete sequences in the goal-directed ST intervention.*

Steps	Sequence 1	Sequence 2	Sequence3	Sequence4
The problematic situation	**Euphoria,** caused by momentary success. "I project far into the future". Consequently, there is relaxation and loss of attention.	**Nervousness,** caused by mistakes on the map, doubts, subsequent errors o seeing others athletes. Consequently, "I can't read the map well; my focus is too narrow"/ "I want to find a quick solution"/ "there is no coordination between my mind and my legs".	**Abuse of intuition,** caused by not paying attention to signs of alert/ "Despite not knowing what to do, I act without reflection"/ "I continue out of inertia". Consequently, "what I see does not correspond to what I read on the map"/ "there is a lack of connection between my mind and my legs".	**Going too fast to get to the first target**, caused by "my inability to find the right pace that facilitates competitiveness and map reading". Consequently, there is a lack of control and loss of time even before the race has properly started.
↓	↓	↓	↓	↓
The thoughts and emotions in that situation	**Thoughts:** "How good I am!" **Emotions:** Satisfaction, safety, euphoria, excitement, optimism and "an intense rise in self-esteem".	**Thoughts:** "It is not worth (in terms of time) looking at the map to find my position. **Emotions:** Excitement, nerves, incompetence and distrust.	**Thoughts:** "Is it there (the target)? No, it was that one, I knew it"/ "You should have checked that earlier". **Emotions:** Insecurity, incompetence, laziness.	**Thoughts:** "That happens way too often"/ "Well done. You don't find the target, and the others do." **Emotions:** Incompetence, distrust.
↓	↓	↓	↓	↓
Goal-directed ST in that situation	None. "Since euphoria is a positive emotion, I did not identify it as debilitative"	Calm down, be logic, and simple/ Shit, that is just not right/ Quickly, you have to make up some time.	Many technical instructions: count (trees, rocks, ...)/ Use the course (west, south, ...)/ Control the level (heights)	"Run for your life"
↓	↓	↓	↓	↓
The effects of the original goal-directed ST	"Feeling of euphoria are never that good"/ "(...) they are positive, but not very functional".	"It helps to get your feet back on the ground"/ "It works if the situation is conscious, and if you look at the map a second time"/ That does not always happen.	It helps to cope with the attitude after making the mistake, and after having identified it.	"It's not very clear what to do after saying this instruction. Well, run a lot"
↓	↓	↓	↓	↓
Alternative goal-directed ST	**Fewer wolves.** Part of a local saying, which tells us not to be too full of ourselves.	**Breath and think.** First, the situation has to be identified. The instruction comes after.	**Be still, read.** The confusion has to be identified quickly, the instruction said and executed.	**To be quick means to simplify.** Start with a simple conservative strategy which allows to move quickly and to become familiar with the map without risk of getting lost.
↓	↓	↓	↓	↓
The effects of the alternative goal-directed ST	I became aware of the present, I calmed down and I started to think again.	You lose some seconds in each target, but that compensates one big mistake in terms of total time lost.	"It takes you back into the present"/ "Opens the mind, widens the gaze"/ "You learn when to say it and what to think"/ "Sometimes, however, it does not alter our behaviour".	"You study the simplification options before the start"/ "It opens up the mind, allows you to study more options"/ "Gives you confidence for upcoming events"

Table 1 describes four sequences which started with a problematic situation identified by the athlete, his thoughts and emotions, the original goal-directed ST, alternative goal-directed ST and the perceived effects of the alternative ST. In first place, we discuss the characteristics of the situation, the type of emotions and thoughts and the original goal-directed ST for all four situations. Then, we analyse the alternative goal-directed ST and its effects for each situation separately.

The four situations presented in Table 1 were found to contain the entire sequence from the original situation to the successful implantation of an alternative goal-directed self-instruction. These situations were relatively heterogenic; the first and the second related to positive and negative emotions respectively, the third and the forth to decision-making and strategy respectively.

Moreover, all sequences except the first included negative thoughts and emotions. In the first situation, both thoughts and emotions were positive, yet dysfunctional. In line with the aforementioned discrepancy, another difference between the first sequence and the rest was that no original goal-directed ST was used in the former, probably because the situation was perceived as positive in valence. In regard to the original goal-directed ST in the latter three sequences, the participant reported ST aimed at creating activated states (“Run for your life”), creating deactivated states (“Calm down”)and regulating cognition and behaviour (“Control the level [heights]”). Generally, in sequences two and three the athlete recognized some merits of his goal-directed ST, which, however, did not suffice to solve the situation. Conversely, in Sequence 4, the athlete actually recognized very little benefit in ST aimed at creating activated states.

In regard to the alternative goal-directed ST, in Sequence 1 we agreed upon an instruction controlling cognitive reactions (“Fewer wolves” [literal translation from Spanish]; i.e., Don’t be too full of yourself). Latinjak et al. (2014) have observed this type of instructions

mostly following failure, and in very few cases following success, as it was the case in this sequence. In the case of failure, such cognitive reappraisal concerning real, perceived, or even anticipated negative outcomes has been considered an effective cognitive coping strategy (e.g., Uphill, McCarthy, & Jones, 2009). Herein, the athlete rated the alternative goal-directed statement as very successful. This result suggests that goal-directed ST aimed at controlling cognitive reactions could be effective for performance after both positive and negative events.

In sequences two and three, we agreed upon a combination between goal-directed ST aimed at creating deactivated states and regulating cognition and behaviour (e.g., Breath and think). The former is similar in content to an anxiety-controlling strategic ST intervention which has shown positive effects on performance, cognitive interference and cognitive anxiety (Hatzigeorgiadis et al., 2007). Moreover, Latinjak (2015) has identified that ST aimed at creating deactivated states is autonomously used by athletes in anxiety-eliciting situations. Regarding ST aimed at regulating cognition and behaviour, the content of these statements resembles instructional strategic ST interventions which have proven to be performance-enhancing in a wide range of tasks and sports (Hatzigeorgiadis et al., 2011). Moreover, combinations of different types of ST have, to the best of the authors' knowledge, not been tested in the strategic ST paradigm. As for the effects of the alternative goal-directed ST chosen, the athlete rated both as positive in terms of performance and, specifically, in terms of their cognitive and affective effects. Nonetheless, the athlete also remarked that in situations similar to Sequence 3, ST might sometimes not work despite repeating the message. This result suggests that ST was not sufficient to deal with this problem, thus the use of additional strategies could be developed to further address this issue.

In regard to Sequence 4, we agreed upon an instruction aimed at regulating cognition and behaviour (To be quick means to simplify). In this case, the athlete had a very clear idea about the situation and the original goal-directed ST in it, as well as about the debilitative

effects of that ST. However, he continued to follow this instruction for many years despite the fact that it rarely worked. Similarly, the negotiation process needed for the alternative goal-directed instruction took a relatively long time, since it was difficult to work out a specific instruction that was sufficiently unspecific, thus flexible enough, to be applicable to different sorts of competitions. Despite the large body of research literature regarding instructional strategic ST, to the best of the authors' knowledge, currently no study exists which has employed instructional cue-words regarding tactics or strategy in competitive settings. Hence, the fact that the athlete repeatedly underlined the positive effects of this last type of goal-directed ST, suggests that goal-directed ST interventions might be the key to introduce ST intervention into competitive settings. Previously, Hatzigeorgiadis et al. (2011) pointed out the need for a more systematic examination of the effectiveness of ST interventions in competitive settings.

The athlete's general comments on goal-directed ST intervention.

In regard to social validation, we set four questions. Concerning the goals of the intervention, the participant stated that these were "to find and evaluate problematic situations related to ST during the competitions, and to apply specific solutions to each situation". When asked about the intervention procedures, he replied that "initially I perceived the intervention as somewhat superficial, but after a couple of sessions I experienced these tremendous effects and the intervention procedures got progressively more agile". Concerning the results of the intervention, he responded that "my evaluation about the intervention is very positive, based on the great results I obtained during the final competitions thanks to our analysis, understanding and application of ST". He added that "without this understanding of the situations, their causes and effects, successful application of ST is highly unlikely". Finally, when asked about the manuscript and if the method and result section represented, in brief, the intervention procedures and results, he answered affirmatively.

The goal-directed intervention approach

Single-case research is a powerful method for assessing the efficacy of interventions (Barker et al., 2013).In addition, the present study meant to establish a first step in goal-directed ST intervention, which implies a learning process for the sport psychologist as well. Moreover, a qualitative approach was used to explore, from the widest possible perspective, the evidence in favour or against this ST approach. It is our suggestion for future studies to use larger samples and different designs, as the volume of previous empirical evidence will eventually have increased.

In short, in this study we have presented a new ST intervention, not previously discussed in sport research. It consists of a dialogue, between the sport psychologist and the athlete (maybe also the coach) about relevant problematic sport situations involving goal-directed ST. Through questioning, the original ST is challenged and alternative instructions are theoretically examined before putting them into practice. Finally, the effects of these alternative instructions are discussed and the process of application and automatization is monitored.

Therefore, goal-directed ST intervention presents several key differences compared to typical strategic ST interventions, which have proven their worth repeatedly in previous research (Hatzigeorgiadis et al., 2011). Most importantly, the key point of reference is automatic goal-directed ST. For instance, in one situation we started analysing the self-instructions the participant had used for years (“Run for your life”). After questioning its perceived effects, the athlete himself agreed to change this instruction. Latinjak et al. (2014) have pointed out that the athlete’s autonomous attempts to solve problematic situations, through the use of goal-directed ST, has not been taken into consideration in strategic ST interventions. The participant himself noted that the understanding of automatic ST and the situations in which it occurs is essential for finding and applying an effective solution. Moreover, goal-directed ST interventions take place in the office, allowing athletes to reflect

upon their performance from some distance. This might not be better than field work, which is typical for strategic ST interventions, but can help complementing an intervention. Finally, goal-directed ST interventions ought to be completely self-determined, the role of the sport psychologist being to guide through the interrogative feedback. In strategic ST interventions, several authors (e.g., Hardy, 2006) hypothesized that self-determined cue-words are more effective than externally predetermined ones, especially because of their effects on motivation. One similarity between strategic and automatic ST interventions is that both require familiarization. Latinjak et al. (2011) evidenced the familiarization process in strategic ST and our participant mentioned, during the social validation, changes in his perceptions about the depth and agility of the intervention.

Conclusion

Goal-directed ST intervention is a proposal, based on athletes' autonomous efforts to regulate their lives, which aims at developing "the coach within", the voice which accompanies each athlete though his or her sport life. This study has described the intervention procedures and offered a personal experience, from an elite athlete, about the intervention effects. Moreover, the relative divergence of situations where the athlete used modified his goal-directed ST allows us to suggest that this intervention might be efficient for a wide range of situations which require some sort of cognitive and/ or affective self-regulation. Accordingly, we have concluded that goal-directed ST interventions might be efficient, enhancing performance through changes in the way the athletes think and feel and by empowering the guiding voice inside their own heads.

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